# The Builder.

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### *Ancient Theatres in Crete.*

THE Italian archæological expedition to Crete has recently made some important discoveries at Phaistos, near Gortys (or Gortyna), where what is supposed to be one of the oldest Greek theatres has been discovered. Apropos of this fact it may be of interest to publish some curious old documents of the sixteenth century describing the condition of many of the greater Roman monuments in Crete as they existed at that period, when the Venetians held sway in the island, and possibly carried on an extensive destruction of such things for the sake of transporting the old materials to Venice and elsewhere.

These documents, from which the following extracts have been made, consist of some old letters and a bundle of original plans, preserved amongst the MSS. of the Ambrosiana at Milan. It is possible they are not the true originals; the custom of collecting MSS. seems long to have survived the use of printing, especially in matters of merely local or special interest, but in any case they are of contemporary character. A large collection of Greek inscriptions is bound up with these documents, and they may possibly have been already printed, but the architectural portion has certainly never before been published. The original drawings were made to fit pieces of paper of an uniform size; in our translation they have been all reduced to one uniform scale of the "foot" of Vicenza, *i.e.*, the old Venetian foot which was in the sixteenth century somewhat larger than the modern English measure (3 Venetian feet = 1 metre). The plans, although measured with care, are evidently somewhat sketchy and the work of an amateur. In translating the extracts from the letters the Italian place-names have been retained in their spelling of the period. There are several evidences of what seem to be mistakes on the part of a copyist.

The collection is entitled "Drawings of Theatres and Temples sent from the island of Candia by Honorius Belli to his uncle, Valerius Barbarano of Vicenza." The author would appear to have been a medical doctor, perhaps in charge of a hospital at Gortina, to which he refers in the first letter. He is also known as a corresponding member of the College of Medicine of Vicenza. His leisure time seems to have been given to the study of antiquities with all the enthusiasm of that Renaissance age, and he seems to have been a good deal engaged in stealing the Roman works of art from Crete, in the customary way in which Venetians stole from all parts of the Levant in those days.

#### *Letter I.*

"*Magnico Sigre Zio Ossmo.*—I send you three plans of theatres from the many which I have made drawings of during my pilgrimage through all this kingdom. That of Gierapetra was richly adorned with two orders of columns of the whitest marble, five quarters (?) in thickness, and of the Ionic order, with very beautiful capitals and cornices.

Many of the statues from this theatre I sent to Venice, but others of stucco, which were entire when I was dismantling the front, were reduced to powder in course of removal. The columns are nearly all spoilt by the action of fire. Many of the spectators' seats, two Vicenza feet in width, are still entire. The columns of the portico behind the proscenium at Gierapetra are of the same sort as the two columns at Venice. There are such quantities of columns at Gierapetra and Gortina as to stupefy the beholder.

The small theatre at Gortina was of the Doric order, the columns being of white and black marble (*sic*) incrusted with different coloured marbles (!). The great theatre had a most ornamental proscenium with most beautiful marble columns 16 ft. high and one foot and a half, and one inch (oncia) thick, of the Ionic order and the whitest marble. There are no traces of any portico behind the proscenium, and what is particularly remarkable is that immediately behind the proscenium passes the river Letteo which is covered over for a distance of about two hundred paces, and over it are built the hospitals and many other houses. This tunnel is built of very large stones without mortar, and the work is still in an intact condition. I have walked along its whole length, having been told there were many inscriptions cut upon it, but I saw nothing of the kind. The bed of the river is much filled with ruins, and it is much altered from its original course. You must understand that in making these plans I have used the greatest diligence as I had plenty of time and opportunity for the purpose. Now I will not write more but recommend myself, &c. From Canea the 24th day of April (old style), 1586.—*Vostro nepote, Honorio de Belli.*"

Two notes are written in a different hand between the letters:—

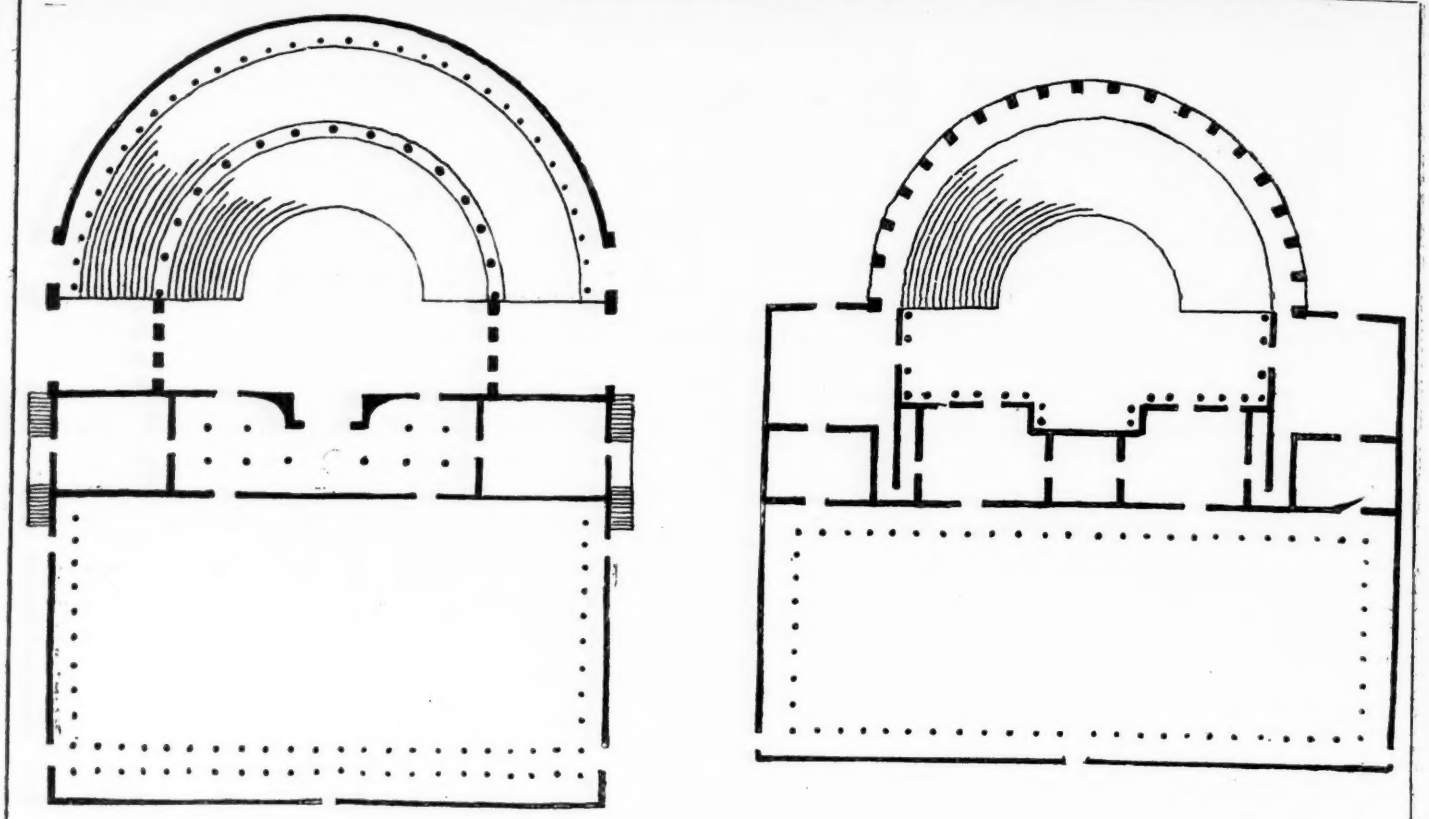
"In the smaller theatre of Gortina, the measurements are a little less than the original; in the Great theatre they are a little larger than they should be. The lines which show the stepped seats must be made parallel.

In the smaller theatre of Gierapetra, the stepped seats in the original are prolonged beyond the half circle by an extra pilaster. Any one wishing to correct this must place the pilasters in such a way—providing not more than sixteen for the purpose—at an equal distance from each other, and lengthening the plan accordingly."

#### *Letter II.*

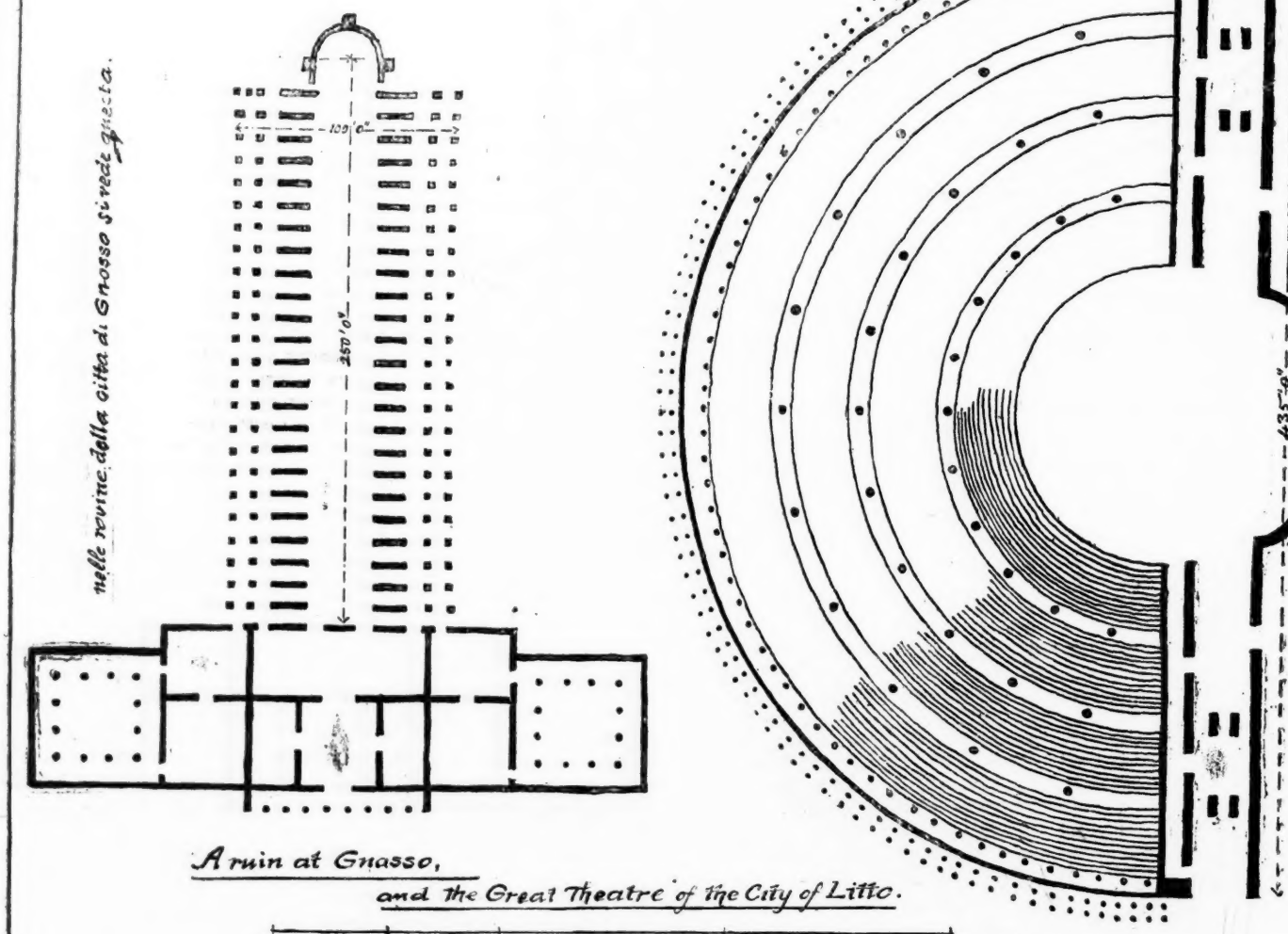
"*Magnico Sigre Zio Ossmo.*—I send you the plans of three more theatres and of a temple of the city of Litto. There is some obscurity as to the prosceniums of the theatres on account of their much-ruined state, which prevents one's seeing how they were originally arranged. The stepped platforms (for the spectators) were cut in the slope of the hill, which consists of a soft tufa easily quarried. This tufa is also used for covering houses and for making terraces to resist the rain.

This Great Theatre of Litto is the largest ever constructed in the kingdom of Candia. It had three ranges of copper vases contrived for the purpose of increasing the sounds, and nearly all the cells where these were placed may still be seen. The city of Litto was built on a hill with several summits, and had a very small amount of level space, but everywhere one ascended or descended. Altogether the site is the most unusual and worst ever seen, notwithstanding it had buildings of great importance, and I found there many beautiful statues which you can now have the opportunity of seeing in the house of my illustrious *Patrone*. I also found there a great many epitaphs which you have already seen, from which it is clear (as Polibius describes) that the inhabitants of Gnosso and Gortina ruined this city. At the same time it would appear that in the times of Trajan, Hadrian, and the Matidie (*sic*) this city was in a flourishing condition, and distant from the



Two Theatres of the City of Gierapetra.

50 100 200 300
Feet [Piedi di Vicenza]




A ruin at Gnasso,
and the Great Theatre of the City of Litto.

0 50 100 200 300
Feet [Piedi di Vicenza]

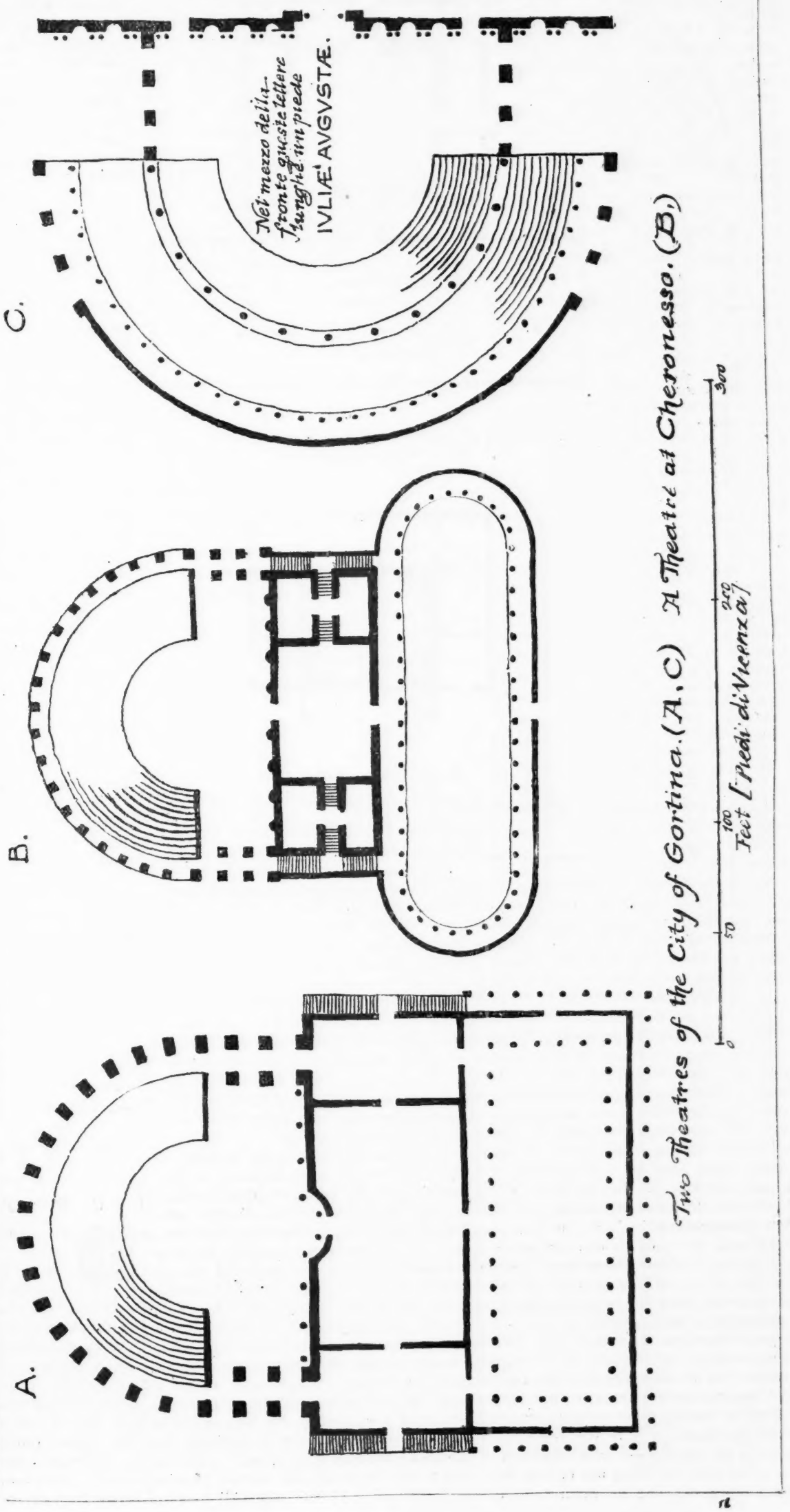
northern sea about twelve or fourteen miles, on the borders of which sea was another city called Cheronesso, now Chirossonisso. This latter was the harbour for the ships belonging to Litto, and between one and the other was a fine, well-made road, crossing hills and valleys without difficulty. There is also a stupendous aqueduct which conducts water from a copious spring four or five miles above Litto, at a place in the mountains of Sasati, which are very high. This aqueduct leads the water, first to Litto, then to Chirossonisso, across the hills and valleys with so many turns and over such high arches as to stupefy the beholder, for its length is really about thirty miles. This aqueduct is still standing almost intact, for it is built with such solidity that in my opinion vestiges of it will remain to eternity.

The city of Cherisonisso was but small—I think not more than two miles in circuit—whilst Litto was four. But, although it was a small city, it possessed an amphitheatre of no great size, which I now send you, and many great and fine buildings. It had also a port (now silted up) capable of containing thirty galleys, and, according to Strabo, here was the temple of Brittomart, of which there are still some vestiges visible.

Another theatre is the great one at Gierapetra, which also was cut out of the rocky side of the mountain. It also had an arrangement of copper vases, as may be seen by the cells which remain in an intact condition. The natives of those parts, who know nothing about theatres or cells, call them ovens, and the fables they have concocted about these ruins are enough to make Melancholy laugh. The proscenium of this theatre was adorned with columns, cornices, &c., of white marble mixed with a kind of red stone resembling the Veronese, but everything is ruined and broken. The order was Ionic, like nearly all the buildings of this kingdom. For a long time the Corinthian order did not reach that perfection which has been discovered and made use of by Palladio.

The plan of a temple which I send you is of that in the city of Lebeno, the port for Gortina; a distance of twenty miles separates the two cities. Lebeno is about twelve miles from Limenos and Lassea, cities visited by St. Paul when on his way to Rome, according to St. Luke's account in the Acts of the Apostles.

Lassea still retains its name, although it is quite ruined, and the nearest inhabitants are four or five miles off in a monastery of Caloyers called Pesonesso, a most beautiful place. These Caloyers have more than 2,000 ducats of income, and



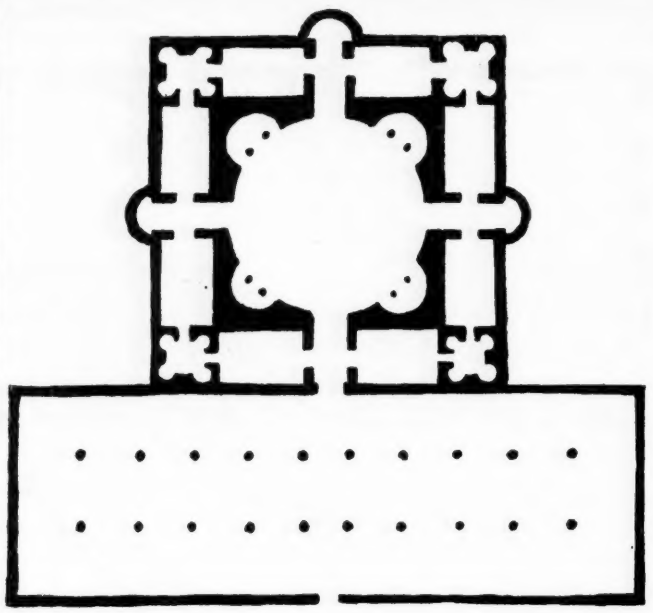

Two Theatres of the City of Gortina. (A, C) A Theatre at Cheronesso. (B.)

are most kind and courteous, and have the finest wine in the world.

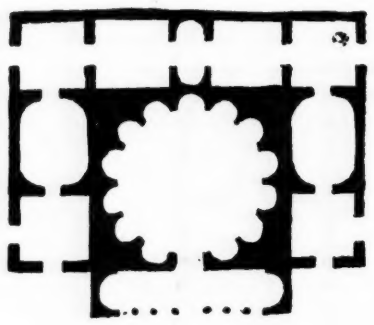
The city of Lebeno is now called Leada, and is entirely ruined; only a few mud houses remain. The port is quite ruined and become open sea-beach, where there is a place that they use for making signals in smoke or fire whenever the corsairs are discovered off the coast. Now, returning to the temple, it was built on a hill and had many columns of that sort of stone of which the two columns in the Piazza of Venice are made. Many of these columns are in existence, but all are ruined by fire. I think this temple must have been dedicated to Esculapius, because in a panel there I have seen a very great serpent sculptured, and because Pausanias mentions in his description of the territory of Corinth, a temple in Labene, a city of Candia, which was made as a copy of that which existed in Cirene.

The drawings which I now send you have been made in a hurry, and the ink and paper have tried me beyond measure (*mi hanno assassinato*), but those in my book are much better. Recommending myself to your good graces, I beg you to salute *Madonna* in my name and in that of *Madonna Bianca*. From Canea—October 11 (old style), 1585.—*Di V.S. nepote come figliuolo,*

*Honorio de Belli.*"



*In the City of Lebeno.*



*In the City of Lampo*

0 50 100 200

*Feet [Piedi di Vicenza]*

In studying this series of sketches of old Romano-Greek theatres some subjects of interest seem to suggest themselves. In the first place, there seems a connexion between its being sent home in 1586 and the creation of that fantastic model of an "Olympic" theatre built by Palladio in Vicenza in the closing years of the sixteenth century, and completed after his death in 1584. This curious old model of a Greek theatre is a striking instance of that ardent longing which seems to have filled Palladio and his contemporaries to produce the absolutely exact copies of the buildings wherein their beloved models of classic times moved and had their being. At the present day such an attempt to reproduce a Greek or Roman theatre would hardly be made without some imitation of the proportions of an original example. The model at Vicenza looks ridiculous on account of its small size. The absurd perspective backgrounds appearing through the openings of the proscenium may belong to a later period than Palladio. The school of architecture which Palladio so materially assisted in originating must be credited with much greater success in designing churches in imitation of pagan temples than in reproducing a classic theatre. At the same time this little theatre of Vicenza is perhaps the prototype of the theatre of modern days, and as an evidence of its practicability, it is still occasionally used in the daytime—a wise regulation of the authorities prohibiting any lighting up of the building, for fear its worm-eaten old timbers should share the fate of many a theatre since the days of Palladio. It is probably the oldest surviving attempt to restore the *mise-en-scène* of the classic drama, and if these drawings of Cretan antiquities were made in reference to its completion—as would seem very probable—they derive some interest from that fact. The building of the theatre in Vicenza was at the expense of an "Accademia," or literary-artistic society of the city, and no doubt the local interest in the matter would be very keen, and Uncle Valerio Barbarano was probably one of the interested parties.

The plans of the theatres in Crete are shown without the usual divisions of spectators' seats into *cunei*, but this is perhaps merely a careless omission. A much more important peculiarity about the drawings is the very unique way in which the *praecinctiones* are shown as occupied by concentric rows of columns. Such an arrangement of course suggests the "covered theatre" of antiquity, of the construction of which we seem to know very little. The *Odeion*, or covered theatre of the Romans, used for musical performances, seems to have been a common adjunct to a Roman provincial town during the Empire. The best-preserved example is perhaps the theatre of Herodes Atticus, built at Athens in A.D. 161. It is said that charred remains of timber and brickwork, supposed to have been used in the construction of the permanent covering, were found here in 1848, when the ruins of the Acropolis were undergoing exploration. At the present day there are certainly no traces of such a roof, nor do there appear to be any remains of columns on the *praecinctio* in the position shown on the Cretan plans. The whole question of how an Odeion was roofed over remains a puzzle, unless these examples of such buildings in Crete, which were, of course, in a more perfect condition 400 years ago, may throw some light upon the subject. It may be suggested, however, that if the roof was carried on the columns as shown in De Belli's sketches, the lowest row near the proscenium must have been phenomenally high, and perhaps slender, or the back seats of the auditorium would have had but a poor view of the stage, especially in the case of the great theatre of Litto. The covered theatre of the Romans was evidently a great stride in such arrangements from the simple Greek theatre excavated in the hill-side, exposed to a great extent to the sun and rain, and almost unusable at certain seasons.

In his first letter De Belli speaks of the columns at Gierapetra (Hierapetra) as being all spoilt with the action of fire. This intimation of the aspect of the ruins in 1586 would accord with the idea of the concentric rows of columns having at one time supported a roof. Palladio, when designing the Vicenza theatre, would probably have derived his information at second hand. He seems never to have travelled beyond Rome (where he had hopes of succeeding Buonarotti at St. Peter's), and consequently he did not see the great theatres of Sicily, which would doubtless have inspired him with a grand idea for such a building. He very probably had access to such information as could be gleaned from the collections of Antonio and Francesco San Gallo (now in the Barberini Coll. Rome) which contain sketches made in Athens and elsewhere in Greece. But during the sixteenth century very little was known about Greek antiquities, and not until after the brilliant expedition of Morosini in 1685 was any effort made to publish works illustrating the monuments of ancient Greece, such as the folios of Fanelli and Coronelli about the close of the seventeenth century.

The mediæval idea of a "stage" seems never to have developed into more than a mere staging. The modern conception of a theatre, with its proscenium and accessories, may perhaps be attributed to the sixteenth century efforts to resuscitate the classic drama after a lapse of more than a thousand years.

## UNDERGROUND TRAMWAYS.

THE ever-increasing congestion of street traffic in the central parts of London is already recognised as a problem for which it is most urgent that some satisfactory solution should be found. During recent years the steady increase of traffic has been most noticeable, the results being an intolerable nuisance and loss to those having business premises along many thoroughfares, and much inconvenience and loss of time to the travelling public. This normal condition is much aggravated by the frequent tearing up of street surfaces and the dilatory manner in which work is done before they are restored. It would be im-

possible for the most imaginative comic paper to exaggerate the utterly absurd methods of the privileged disturbers of London thoroughfares, whose operations add so largely to the difficulties of street locomotion. Even leaving their depredations quite out of the question, it appears to be the fact that the money value of the time now lost owing to congestion of traffic amounts to many millions of pounds annually. According to a recently published estimate by Sir John Wolfe Barry, the loss at four only of the busy centres in London, namely, Cheapside, the Strand, Piccadilly, and the Oxford-street corner of Tottenham Court-road, may be reckoned at no less than 2,154,000*l.* per annum. It will, therefore, readily be seen that if other well-known centres were considered in a similar manner, the total loss must mount up to an appalling sum. Figures such as these may not be before all those who join in condemning the traffic facilities of the metropolis, but that they are more or less familiar to many of the public authorities supposed to be responsible for the proper government of metropolitan boroughs cannot be doubted.

The fact is, however, that none of the authorities in question have power to do anything to ameliorate the hard lot of the population. No single body could do any material good without the consent of others, whilst the formulation of a complete and really satisfactory scheme can only proceed from a central board armed with ample Parliamentary powers to carry into effect whatever might be devised for the good of the community. In other cities and towns such bodies actually exist and do their work in a practical and businesslike way. For examples we may take the Corporations of Glasgow and Liverpool, with the admirable tramway systems of those cities, and the Rapid-Transit Commissions of Boston and New York, with which are associated still more desirable methods of dealing with street traffic. For means of locomotion, London is at present almost entirely dependent upon the money-making instincts of commercial companies and private individuals, each playing his own game and only concerned in benefiting the public so far as that contingency may appear to be likely to pay. The streets have hitherto been practically at the disposal of any one desiring to use them, and any one has been perfectly free to introduce whatever inconvenient or unsuitable class of horse-drawn conveyance might be chosen for trade in locomotion. The only means of transit upon which restrictions have been placed are those of improved character, such as tramways and mechanically-driven carriages. Some improvement is now evident with regard to the two last-mentioned systems of locomotion, but much remains to be done before the position can be regarded as satisfactory.

One of the most hopeful signs is the remarkable and praiseworthy interest taken by the London County Council in the question now under discussion. People are not wanting who unhesitatingly condemn the ownership of tramway systems by municipal bodies generally, and by the London County Council in particular; but the true point for consideration is whether we can hope for reforms of really comprehensive character from any other quarter. It is possible that after some years of deliberation a Royal Commission might recommend to the Imperial Parliament the creation of a Rapid-Transit Commission, but it is equally probable that such a commission would never be appointed, or only appointed after the lapse of several years. Further, the County Council is already empowered to deal with various details that are directly and indirectly connected with such work as would fall within the scope of any transit commission. For these reasons we think the Council may properly be entrusted with the reorganisation of street traffic, and with the provision of additional means of communication, although not to the exclusion of companies who may be working upon other lines. Thus the salvation of the metropolis need not depend solely upon the London County Council, nor upon the various companies interested in the construction of deep-level railways. As the aim of the Council is to deal exclusively with lines upon or near the surface, no obstacles need exist against the unlimited extension of tubular railways. There might, and naturally would, be competition, but that there will be plenty of passengers for lines at both levels no one can for a moment doubt.

Since acquiring the tramway systems now under their control, the London County Council has been troubled by the fact that the City Corporation and the West End authorities seem determined to resist any attempt to introduce tramways within their territories. As Parliament similarly refuses to permit the passage of tramways over Westminster Bridge, and as many streets would require expensive alterations even if way-leave were obtainable, the difficulties in the way of making adequate connexion between the northern and southern tramway systems appear to be almost insuperable, except by the aid of shallow subways into which the surface cars could dive on approaching prohibited areas. This solution was first suggested at a meeting of the Council on June 13, 1901, when it was decided that the Highways Committee should investigate and report upon the practicability of constructing a shallow underground electric tramway from Westminster, *viâ* Parliament-street, Strand, Fleet-street, and Cheapside, to the Bank, thence under Moorgate-street to Finsbury-pavement, on a principle similar to that adopted in Budapest, and Boston, U.S.A., provision being made beside the tram-lines for subways to contain gas and water mains, electric light mains, telephone wires, and other conduits. Since that time the Central London Railway has been opened and has proved how great are the possibilities of an efficient and rapid underground railway in London. The Paris, Budapest, and Boston systems have been similarly successful, and the great undertaking in New York, to which a further reference is made in this issue, has been well advanced toward completion. In the meantime the Council has not been idle; the subject has several times been before the Highways Committee, and the Tramways Manager and the Electrical Engineer to the Council have recently returned from the United States, where it was their duty to inquire into the latest developments of electrical traction generally, and particularly to study the construction and working of the subways in Boston and New York. In their Report, now made public, we find attention is devoted entirely to the description of the subways mentioned, leaving electrical matters to be dealt with in a separate Report. So far as Boston is concerned, it may be useful to remark that the conditions of traffic before the subway came into operation were extremely unsatisfactory. In Tremont-street especially the stream of cars seems to have constituted a nuisance as unmitigated as that due to the endless line of omnibuses to be found in London. To quote from an old Report of the Commissioners of Boston, the surface cars "moved in an almost unbroken procession with a slowness which was vexatious, aggravated by stops of uncertain duration. The rate of progression was often not more than two miles per hour." Then the American mind promptly grasped the situation, and a Rapid-Transit Commission was formed to deal with the whole question of city communications, of which the new subway formed merely a part. The total length of subway authorised was about five miles of single track, part being for four lines, and part for two lines. At Boylston-street an incline admits cars to the subway, which, passing beneath the edge of Boston Common to Tremont-street, is joined by a branch coming from Pleasant-street, where another incline leads to the surface. From the junction the subway continues to the Tremont-street side of the Common to Park-street, the centre of the system, where there is a loop terminus. From Park-street the subway is carried under Tremont-street to Scollay-square, and by branches under Hanover-street and Cornhill to a junction under Washington-street, continuing thence to Haymarket-square, and immediately afterwards rising to the surface. With the exception of short lengths, the whole of the excavation was performed by the cut-and-cover method, continued day and night and also on Sundays, the car tracks being undisturbed and the surface of the streets left free for traffic during the daytime.

Such, briefly, is the history and character of this undertaking, which has proved so inestimable a boon to the city of Boston, and of which the Park-street station is said to possess a traffic equal to the largest amongst other stations in the world. An interesting account is also given in the Report of the New York subway works, intended to provide facilities for traffic in a city where natural difficulties are far greater than those presented in London, and where the streets are in a particularly congested condition. A very unsatisfactory detail noticed in each case is the absence of proper accommodation for the pipes and other conduits, a point to which attention has previously been directed in our columns. On the other hand, great care has been taken to secure efficient ventilation, a matter that does not appear to be understood by the eminent engineers to whom London is indebted for the low-level lines constructed of late years. Generally it may be said that their visit to the United States has convinced the reporters of the entire practicability of shallow tramways for the needs of London, an opinion in which we quite concur. Many passengers are timid, and object to bury themselves 70 ft. or 80 ft. below the surface, or to be carried up and down by lifts. Others think of the time spent on the lift journey and in waiting a minute or two for a

train. People of these classes would certainly prefer simply to descend a few steps, and to board one of a stream of single cars, instead of travelling under present conditions; and this alternative method possesses other incidental advantages. For instance, single cars carry away passengers as soon as they arrive on the platform, and deliver them to the street again at a steady rate, instead of discharging crowds amidst noxious fumes every few minutes, as in the case of our tubular railways. Again, the shallow tramway system would enable the Council to deal suitably with the great and pressing question of underground conduits the treatment of which would be facilitated very greatly.

That many difficulties and much opposition will have to be encountered we do not for an instant doubt. That is the fate of every single thing likely to be productive of good, notably in conservative-minded London. The treatment of vested rights in premises with basements projecting beneath the footway may be attended with difficulty, and objections on the score of vibration will probably arise. These and other points are quite capable of proper adjustment, and it is to be hoped that the evident desire of the Council may shortly find expression in the formulation of a definite scheme for the inauguration of the new means of communication foreshadowed in the Report.

## NOTES.

The New Government Offices.

WE publish in another column the correspondence which has passed between the Council of the Institute of Architects and the Office of Works in regard to the carrying out of the late Mr. Brydon's building. It appears that the excuse now put forward by the Office of Works for not appointing an eminent architect to carry out Mr. Brydon's design is that they have been unable to find any eminent architect who would be willing to carry out the work without putting his own individuality into it; and the Office of Works are so tender of Mr. Brydon's reputation that they cannot bear to expose his design to the risk of being thus tampered with. The argument, which in any case could only be received with laughter, is knocked from under them by Mr. Leonard Stokes's letter in Thursday's *Times*, in which he points out that Mr. Brydon's drawings are so incomplete that in any case there must be some fresh individuality imported into the building, and his friends had hoped that it would have been the individuality of some eminent architect and not that of the Office of Works. It pleases the Office of Works now to assert that their official architect is an eminent architect, but unfortunately we have his Post Office buildings in evidence on this head, and it is perfectly certain that his appointment would never have satisfied poor Mr. Brydon. But the feelings of an eminent architect — more especially when he is dead and out of the way—are of no consequence in the estimation of the Office of Works.

The Housing Question.

THE conference held this week at the Westminster Palace Hotel on housing in town and country will, we hope, have some practical results, chiefly by being the beginning of further legislation. It is admitted by men of all political parties that the houses of the dwellers in rural districts are in many places insufficient in numbers, and it is certain that the only way to remedy this defect is by giving greater power to the Local Government Board to order the building of dwellings if the supply is found on inquiry to be insufficient. This was in substance one of the resolutions which were carried at the conference, and it forms the basis for a further piece of short, and it may be hoped effective, legislation. At the present time the Local Authorities in the rural districts do not recognise the pressing need for more and better dwellings, and it has been the national policy for many years that when Local Authorities do not recognise the duties imposed on them by the Legislature in sanitary matters, the central government should have powers of compulsion direct and indirect. This is obviously the only policy which promises any effective results in regard to the housing question in rural districts.

Stockport Workhouse Infirmary Competition.

ON Monday last the Stockport Guardians indulged in a discussion which is not pleasant reading. In March last sixteen designs submitted in the competition for the infirmary were exhibited, and a brief review of these designs was given in our columns. The first premium was awarded to Messrs. Giles, Gough, & Trollope, presumably on the advice of the assessor, Mr. Thomas Worthington. In the conditions of the competition there were two clauses relating to the cost of the buildings, and in view of recent developments, the exact wording of these clauses is interesting. One of them runs as follows:—"The Guardians are of opinion that the designs should provide the requisite accommodation at a cost not exceeding 130*l.* per bed for the buildings, including boundary wall, boilers, machinery, fixtures, and fittings." The other clause states that "designs shall be excluded from the competition . . . if the assessor should determine that the probable cost of carrying out the works will materially exceed the outlay estimated by the competitor." These clauses, it will be seen, did not impose a definite limit to the cost; the Guardians merely expressed an opinion that 130*l.* per bed would suffice, and only contemplated the exclusion of designs the "probable" cost of which might "materially" exceed their authors' estimates. The assessor named in the conditions was clearly intended to be the sole arbiter as to the interpretation of these indefinite clauses, and the very fact that the premiums were awarded shows that he did not think that the probable cost of the accepted designs would materially exceed the estimates. The Guardians clearly do not think that it is even yet too late to discuss the question of cost, and some of them go the length of construing the "opinion" expressed in the conditions as a definite stipulation. At the meeting on Monday the Workhouse Committee recommended that the sixteen sets of plans received in the competition should be submitted to another assessor, namely Mr. P. Gordon Smith. A letter from Mr. Smith was read in which, after stating that his fee would be 150 guineas, he declared that "the limit of 130*l.* per bed was so low that he doubted whether they could erect a hospital for 322 beds and administration for 500 patients at that price."* An amendment was moved by one of the Guardians that the plans keeping within the 130*l.* limit, "with the addition of those of Mr. Ward, of Birmingham," be reconsidered by the Board. This was lost by the casting vote of the Chairman. "Amendment after amendment was moved, but no headway could be made, and eventually Mr. Clarke gave notice of motion that the whole of the plans should be superseded by those of Mr. Ward, of Birmingham." There seems to be considerable danger of injustice being done, not only to the authors of the premiated designs, but to most of the other competitors.

The Sewage Question.

ON Monday evening a paper entitled "The Sewage Question During the Last Century" was read by Mr. H. Alfred Roechling, C.E., before the Society of Engineers. The author, following some other writers, distinguishes land treatment as "natural," and the second method as "artificial," but the distinction can scarcely be regarded as accurate. The processes of purification in both cases are natural; the means employed are largely artificial. If crude sewage is turned in large volumes on to unprepared land, a nuisance will inevitably be created. The surface of the land must be carefully prepared, the soil must in many cases be lightened, drains must be laid, special crops must be grown, the flow of sewage regulated, and the most careful management exercised. A sewage farm is to all intents and purposes as artificial as the means adopted in the so-called bacterial treatment, but in both cases natural processes are relied upon for effecting purification. Mr. Roechling appears to us to be somewhat biassed in favour of land treatment. The difficulties connected with it are scarcely mentioned, and nothing is said as to the enormous areas of land which would be required for the purification of the sewage of some of our largest inland towns, such as Manchester and Leeds, although this difficulty has proved an almost insuperable objection to the adoption of land treatment. Mr. Roechling quotes Dr. Houston's report on the London experiments to the effect that "the effluents from the bacterial beds cannot be reasonably assumed to be more safe in their possible relation to disease than raw sewage slightly diluted;" and speaking of the possibility of diseases being spread by germs passing through the soil into the effluent drains of a sewage farm and thence into streams, Mr. Roechling says: "There is . . . . no case on record where such a thing has actually occurred." Perhaps not, but, on the other hand, is there any case on record where the effluent from well-managed tanks and filters has caused the spread of disease? The fact is that the bacterial character of effluents from sewage farms has not been examined to anything like the same extent as the effluents from filters. Mr. Roechling does not quote a single bacterial test of an effluent from an English sewage farm, but in a paper written in 1896 he confessed that "there are a few sewage farms in existence *on which the sewage is not*

* We quote from the *Manchester Evening Chronicle*.

*purified.*" This statement is as true to-day as when it was written, and if the sewage is not purified the effluent is impure, whether there is any case of resultant disease on record or not. With Mr. Roechling's observations on the importance of careful and intelligent management of sewage-purification works we heartily agree, and there is wisdom in his suggestion that some "means of educating our future sewage-disposal managers" ought to be found.

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Iron Testing.

THE paper by Dr. Drysdale describing an instrument for testing the magnetic qualities of an iron forging or casting, which was read to the Institution of Electrical Engineers last week, directs attention to a problem of great importance to electricians. In designing dynamos, assumptions have to be made as to the magnetic qualities of the iron employed, and it is well known to electricians that these qualities are very variable. Two samples taken from castings made from the same steel have been found to differ by as much as 50 per cent. Hence, if exactly similar machines were made from these castings, the output of the one would be 50 per cent. greater than the output of the other. Dr. Drysdale uses a drill of a special form which makes a circular hole of about half an inch in diameter and half an inch deep in the casting, and leaves a circular pin of about a tenth of an inch in diameter in the centre of the hole. By means of a special plug this iron pin can be magnetised and its magnetic qualities determined in the ordinary manner. Dr. Glazebrook criticised the method and pointed out that it only determined the qualities of the surface of the casting. Professor Perry suggested an easy test to settle the question whether the instrument determined the real magnetic qualities of the iron. Mr. Mordey pointed out that the effect of the drill on the iron pin may alter its physical properties. He said that he had noticed that in those electric meters which are controlled by an aluminium disc rotating between permanent magnets there was often a variation in the speed for different positions in the spindle, which was most probably due to slight differences in the physical properties of the apparently homogeneous metal disc. Dr. Drysdale, in his reply, stated that his instrument would enable manufacturers to test and accept or reject castings or forgings immediately on delivery, and would thus enable machines to be designed with far greater certainty. In our opinion, the instrument may be useful for giving rough comparative tests, but it will certainly not supersede the accurate ring methods of Rowland and Ewing.

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Bow Bridge.

THE bridge at Bow, which is to be replaced with one constructed of iron and 70 ft. wide, was built of granite in 1839-40, and is 40½ ft. wide between the parapets. The original bridge across the River Lea at Bow was built "arched like unto a bow," in the reign of Henry I., by his Queen, Matilda of Scotland, as one of her probably politic benefactions to the citizens of London. Leland records that she had "got well washed in the stream," and, therefore, provided the means for diverting and carrying the main road from Aldgate eastwards across the river and marshes to Stratford, and so into Essex, in lieu of the dangerous passage at Old Ford, a short distance upstream, near the outlet of Hackney brook, which marks the route of the more ancient track into Essex. Matilda also, by one account, caused another bridge to be made across the Channelsea Cut, where is now Stratford Bridge Railway Station, and constructed between the two bridges at Bow and Stratford a causeway, the High-street of Bow, which at this day crosses the Three Mills streams by the two intermediate Pack's Hole and St. Michael's bridges. For maintaining the two bridges and the causeway she bestowed the manor and Wiggen mill upon the Abbess of Barking Abbey.

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Islington Parish Church.

WE hear that it is now proposed to rebuild the complete fabric of the Parish Church of St. Mary, instead of carrying out the extensive repairs which, in view of the unsatisfactory condition of the structure, had been considered to be necessary. The church, which stands upon the site of the former one, was begun in August, 1751, and consecrated on May 26, 1754, having been erected after the plans and designs of Launcelot Dowbiggin. Its dimensions are 108 ft. in length by 60 ft. in width; it is constructed of brick, with quoins, cornices, and dressings of Portland stone; the stone steeple, with the vane, rises to 164 ft. For the repairs executed in 1787 a curious scaffolding of wickerwork, having a staircase within, was built up around the tower and spire, for 20*l.*, by Bird, a basket-maker of St. Albans. Of that scaffolding there exist contemporary views, one being drawn and engraved by M. Skinner, of Islington.

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Hogarth's House, Chiswick.

WE are exceedingly glad to be able to report that Hogarth's House at Chiswick, instead of being sold as builders' material, was purchased for 1,500*l.* at the auction last week by Colonel Shipway, a resident at Chiswick, with the view of permanently preserving it as a historic relic. Views of the house will be found in the *Builder* for February 8, 1890, and June 22, 1901, the latter from a sketch by Mr. R. W. Paul.

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The Society of Arts.

ON Wednesday, at the Society of Arts, Mr. Herbert Stone gave a lecture on a subject which he has evidently made his own, the study of the structure and formation of wood as seen in thin sections examined microscopically. The lecture was unfortunately not by any means audible to all the audience, and a good deal of the information intended to be conveyed in it was consequently lost; but the series of lantern slides of magnified sections of various woods were beautifully got up, and of the greatest value and interest in themselves, apart from the lecture.

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Ceramic Art.

ON November 30 Mr. Walter Gandy, of Messrs. Doulton, delivered a lecture on "Decorative Ceramics" to the Builders' Foremen's Association at the Memorial Hall, E.C. Mr. Gandy prefaced his lecture by a brief outline of the history of ceramics from the earliest pottery of Egypt and Babylonia on to the Persian period, and laid stress on the great influence of Holland in the development of salt glaze so evident in the ceramic ware of to-day. The baking difficulties are the most serious troubles of the potter in preparing material for architectural use, and the lecturer emphasised the necessity of the most carefully detailed full sizes being supplied by the architect, these being enlarged to a given scale by the potter's draughtsmen to allow for shrinkage. The varying shrinkages of different clays must be also considered, and as colour is dependent on these, any alteration in the colour scheme at the last hour is often productive of great expense and delay. The difficulty of retaining certain colours—especially bright red—when baking at a high temperature precludes that freedom of colour handling which exists in paper designing. Mr. Gandy rightly maintained that to be successful the colours must be simple and few, and the success of ceramic decoration depends on the simplicity of the general colour scheme. Messrs. Doulton showed an example of their stoneware polychrome, a very highly polished ware for external use, the effect of which is doubtful, judging from the sample, which was very badly chosen. A painted tile of vitreous frescoe shown was extremely interesting, in so far as all the quality of the painting was retained and burned on to the tile, which, however, was only suitable for internal use.

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Japanese Art.

AN exhibition and sale of Japanese ivory carving, embroideries, and screens was held during the week at Willis' Rooms, St. James's. We should like to see a representative collection of Japanese art in London—some such exhibition as the superb collection that was to be seen at the Paris Exhibition last year. To our mind Japan was easily first in the modern art section of that exhibition, not from the poor representation of other countries, but from the vitality and fire, apart from exquisite workmanship, that distinguished their work. The present small exhibition at St. James's exhibited notable work, specially among the ivory carvings. The statuette of Kwannon by the late Ono Hakujitsu is a most remarkable ivory carving standing 2 ft. 2 in. high, with elaborate trappings. It is a wonder that art survives so much painstaking detail—it occupied the artist three years of his life—but you have to look no further than the goddess's face to be attracted to the work. A pair of pigeons and young by Mitsukazé is a fine piece of carving, as is also a kneeling lion by Ishikawi Komei, now artist to the Emperor of Japan. The embroidery was characteristic—composition, colour, and workmanship the most usual combination—but, of course, the exhibits were fewer and less remarkable than those at Paris last year.

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Society of Painters in Water-Colours.

THE winter exhibition of the Society of Painters in Water-Colours is one of the best we have ever seen. When these winter exhibitions were first established they were professedly for "sketches and studies"; and while this limitation was soon overlooked by a good many members, who contributed finished drawings, the liberty to be represented by sketches still remains, and enables some members to give us interesting examples of their work in this lighter and broader manner. Nothing of

the kind could be better in its way than Mr. Thorne Waite's landscape under the title "A Rapid Sketch" (107), and equally good in the same way is his study called "An English Homestead" (61). Mr. Albert Goodwin's devotion to his art is attested by no less than thirteen beautiful studies, chiefly of city scenery or buildings, pre-eminent among which are the view of Milan Cathedral in twilight, with the pinnacles just touched by the last rays of the sun (41), and his grand composition on a small scale, "Sunset from the Makalton Hills, Cairo" (236). Mr. Herbert Marshall seems a good deal possessed by Mr. Goodwin's spirit; at all events, whether intentionally or not, his present treatment of city scenery, in some of his smaller works, bears a curious resemblance to Mr. Goodwin's effects. Mr. Cuthbert Rigby is well represented, and Mr. Colin B. Philip exhibits a fine bold example of his power in treating hill scenery, in "High Crag, Buttermere" (172). Mr. Charles Davidson's "Clouds" (128), in a very different way, is a fine and unusual landscape showing a broken cloudy sky above a stretch of moorland. Among other landscapes that may be especially mentioned are Mrs. Allingham's "Berkshire Cottages" (247); Mr. Thorne Waite's "Cornfield in the West of England" (213), a large work with a very fine distance; Mr. Allan's "Return of the Fishing Fleet" (96); Mr. Waterlow's "Across the Meadows to Christ Church" (144); and Miss Butler's "The Four-Horse Thrasher" (184) not so much a landscape as a farm scene, but an admirable little picture. Among works rather out of the usual line of the exhibition and of special interest for their artistic qualities are Miss Barton's interior with a figure of a small child, under the title "A Cold Day" (141), a thing which is just a composition and nothing more, but full of artistic quality; Mr. Anning Bell's rather curious work "The Bathers" (92), in which the nude figure looks strangely flabby and woebegone, but which as a whole is a remarkable piece of colour and composition; and a very highly finished little interior and figure, with a quotation from Herrick for title (88), by Mr. Walter West, a name we do not remember here before, but whose work will certainly be looked for in future exhibitions. Mr. Lionel Smythe's study of "A Boulogne Fisher Girl" (75) is a bright piece of work, and Mr. Edwin Alexander's "Chameleon" (73) a very clever realistic study. Architectural subjects are rather largely represented; besides a number by Mr. Goodwin and Mr. Marshall, already referred to ("Chartres" is the best of Mr. Marshall's), we have a large and fine drawing of the "Castle of Jean Dunois at Chateaudun" (193) by Mr. T. M. Rooke, who also sends an excellent "study of sculpture, as yet unrestored" on the north porch of Chartres Cathedral; Mr. S. J. Hodson gives us the "Tower of S. Ouen, Rouen" (49: the facts without the poetry of the architecture); Mr. Reginald Barratt "The Courtyard at Cordova" and "The Interior of the Mosque" in the same city (54, 55), which we may regard as professedly architectural drawings rather than studies in water-colour, but they are excellent of their kind; Mr. Robert Little has a very good drawing of the interior side of the gateway in the quadrangle at St. John's, Oxford (146); Mr. Allan gives us the "Clock Tower, Auxerre" (198) but his "spotty" manner does not lend itself too well to architectural subjects; and the numerous subjects by the veteran artist Mr. Callow (the oldest member we believe of the club), if a little old-fashioned in manner, are in precision and drawing as good as ever, and take back our associations not unpleasingly to the taste of a former generation of artists of whom he is one of the few survivors.

## LETTER FROM PARIS.

THE official lunch offered annually by the President of the French Republic to the winners of the Prix de Rome was given this year at the Elysée in honour of MM. Jacquot Defrance, Bouchard, Hulot, and Caplet. The Minister of Public Instruction and Fine Arts, the director of the Ecole Française à Rome (M. Guillaume), and the director of the Ecole des Beaux-Arts (M. Paul Dubois), and M. Bonnat were present at the lunch.

The question of the ornamental entrances to the stations of the new Metropolitan Railway has been the cause of a little scandal in official circles. It will be remembered that as a result of a competition between sixty architects the Municipal Council selected M. Hector Guimard as the architect for all the future stations, and M. Guimard, who is a fervent advocate of a modern style of art, has up to the present designed all the existing stations in a manner which has given entire satisfaction to the Council, although to some tastes the style of these erections is rather too modern and gaudy. The Railway Company has been endeavouring to obtain the adoption of the designs of an official architect for the future stations, but the Municipal Council has firmly decided that no other than M. Guimard shall design the stations, not only because they wish to respect their former decision, but because it is desirable that the aspect of the stations should be the same for all the lines of the railway.

The competition for the abattoirs of Soissons has been won by M. Felix Piat, architect at Paris.

The subversive ideas of M. Tony Garnier, a pupil at the Villa Medicis, who, it will be remembered, sent home for exhibition at the Ecole des Beaux-Arts, a few months ago, designs and ideas which were much too modern for the spirit of the school teaching, resulting in the exclusion of his drawings, have already found favour in some circles, and a meeting, presided over by MM. Alfred Bruneau and Frantz Jourdain, was held a few days ago to protest against the classical spirit of the official teaching of art in France. The meeting was a very noisy one, and ended in much tumult; but M. Jourdain was able to relate the Tony Garnier incident, and to declare that M. Garnier was to be praised for his endeavour to free himself from the influence of the Ecole, "a backward school, hostile to all new manifestations of art."

The commission appointed to consider the question of forming district schools of architecture is now busily working under the direction of M. Henry Roujon, Directeur des Beaux-Arts.

The monument erected to the memory of the school teachers and villagers shot down by the Prussians in 1870 was recently inaugurated at Soissons by M. Legues, Minister of Fine Arts. The architectural portion of the work is due to M. Guilbert, the young architect of the chapel in the Rue Jean Goujon. The figure subjects are the work of M. Hiolin, well known also for his sculpture in the above chapel. The cost of the monument was estimated at about 2,500*l*., but as the public subscriptions did not by any means reach this amount, the architect, sculptor, and builder, by giving up their fees and a portion of the cost of their work, managed to complete the monument with the help of the money already subscribed.

The Municipal Council is discussing the question of lighting the gardens of the Tuileries by electricity, and keeping them open to the public until eleven at night.

The Mayor of the district of Grenelle has sent in a petition from the inhabitants of his quarter requesting public powers to choose the quarter of Grenelle as the site of the reconstruction of the Imprimerie Nationale, in preference to the quarter of Montsouris.

The Place de l'Opéra will very shortly suffer a certain change in its present aspect. The Equitable Insurance Company of the United States proposes to acquire the buildings and ground situated on the angle of the Boulevard des Capucines and the Rue de la Paix for the purpose of erecting an immense building destined as offices for the company. The present buildings will be demolished as soon as the lease expires; in the meantime a competition amongst architects will be opened for plans and designs for the proposed new buildings. According to custom at Paris, the ground floor of the new buildings should—especially at such a frequented corner—be devoted to shops, cafés, or restaurants, but it appears that the company has decided that such establishments would take from the dignity of business offices, and that the ground floor shall consist of offices alone. It is strange that this angle of the Place de l'Opéra is one which has undergone more frequent changes than any other site in Paris.

The competition for the new schools at Ivry has been carried off by M. Pierre Despeyroux, architect, of Paris.

The question of the Cirque des Champs Elysées seems never ending. It has now been decided to accept the terms of the lease proposed by M. Leoncavello, but it is understood that if the sums exacted as a guarantee are not paid within the week following the notification of the lease, the Municipal Council will immediately proceed to pull down the building.

It has been decided to abolish the greater portion of the old Marché du Temple. A public sale by auction will be shortly made of the 2¼ acres of ground and buildings at a starting price of 180,000*l*.

The Municipal Council has voted a credit of 500*l*. for the completion of the Crematorium at Père la Chaise.

An interesting example of modern art, the work of M. Hector Guimard, the architect of the Castel Berenger, and called the "Temple of Classic and Religious Art," has just been inaugurated in the Rue Saint Didier. This large hall, which has been planned to meet the requirements of 200 musicians and an auditory of about 1,200, is designed in the style of modern art dear to M. Guimard. The lower portions of the building are constructed of stone and cement materials, with carefully planned passages for exit in case of panic. The interior of the roof is formed entirely of mahogany trusses rising from the ground floor, and supporting at the same time as decorating the roof, which is lit up by a very large number of tastefully arranged electric lamps, screened and coloured to throw a rather effective light towards the lower portion of the hall. The first-floor gallery, which surrounds the interior of the hall, is most effectively designed. The aspect of the whole is something quite new in the way of public halls.

The scheme prepared by M. Girault for the heating of the Petit Palais by means of a system of steam at low pressure at a cost of 4,300*l*. has been adopted by the Municipal Council. M. Thomas, the architect of the Grand Palais, is about to light the building completely by electricity.

At the Ecole des Beaux-Arts the jury has awarded medals to the pupils of the first class for designs for a "timber ceiling for the large hall of a sixteenth century château," and to the pupils of the second class for plans and designs for "dwellings for the servants of a national palace."

An International Exhibition will be held at Lille from May to September next. The architectural portion is entrusted to M. Hannotin, architect, of Lille.

The forthcoming meeting of the Société des Amis des Monuments Parisiens will deal with the following matters: the extreme slowness of the work of placing Paris in a fit state again after the late Exposition; The question of safeguarding the Parisian gardens menaced by the new fiscal law of taxation proposed to be levied on unbuilt property; the new buildings of the Place de la Bourse; the ruins of the Cirque of the Champs Elysées; and the necessity of lighting the Champs Elysées and the Tuileries.

The third line of the Metropolitan Railway is commenced. This will be a transverse line, and will cross Paris from Courcelles to Menilmontant. There will be fourteen stations, and the line will pass under the canal of Saint Martin at a depth of about 20 ft., protected by an arch 4 ft. thick.

M. Carré, Architect to the Minister of Foreign Affairs, has left for Pekin with a view of reconstructing on entirely new plans the French Legation, which was destroyed during the siege.

The Société des Amis des Monuments Parisiens are endeavouring to obtain the free entrance of the public to visit the interior of that interesting monument of the eighteenth century, the Ecole Militaire, by Gabriel. The members of the Société were enabled to visit the building a few days ago and admire the five magnificent rooms on the first floor, beautifully decorated in the Transition style of Louis XV.-XVI. The Salle des Maréchaux is especially to be admired with its marvellous bronze chimney-piece and the four military pictures by Le Paon. The chapel on the ground floor, surrounded by columns of the Corinthian order, recalls the style of the best portions of the Palais de Versailles.

The Commission Parlementaire d'Hygiène invites the Minister of Commerce to prepare without delay an official set of by-laws concerning the replacing of the use of white lead in painting and similar work by another product less harmful. In the meantime, M. Baudin, Minister of Public Works, has forbidden the use of white lead in all work done for the State.

M. Bouvard has informed the Commission du Vieux Paris that he hopes to restore to the town of Paris the equestrian statue, the work of Pradel, which once surmounted the façade of the Cirque d'Eté of the Champs Elysées. If the old building is demolished, the statue will be placed in the garden to be formed on its site.

The Commission du Vieux Paris hopes to succeed in obtaining the preservation of the famous Hotel de Rohan, menaced with destruction. The secretary of the same Commission has just discovered in the Rue de Montreuil vestiges of one of the last "folies" or country houses which the rich bankers of past times built for their mistresses. This pavilion, called the "folie" of General Titon, still contains a number of very fine painted ceilings and interesting panelling. One of the ceilings, valuable as an artistic piece of work, is also interesting as documentary evidence, for it was here that Reveillon, one of the inventors of wall-papers, installed his studio and workshop in 1787, and his artists drew much of their inspiration for their designs from the ceili g above their heads.

Amongst the new municipal taxes destined to replace the octroi taxes taken off wines and other products is one which is received by much disfavour on all sides, and that is the ta" posed to be levied on gardens and other unbuilt property. On one side the landholders are unwilling to pay taxes on vacant ground or even pleasure gardens which are unproductive of money interest; on another side the art societies complain that this law will have the effect of doing away with many private gardens and open spaces which, although unproductive to their owners, are nevertheless most advantageous to the general aspect of Paris; and on the side of sanitation others contest that the present building laws allow houseowners too much liberty as regards the minimum dimensions of courtyards and open spaces obligatory between and behind dwelling-houses, and that the proposed law will force householders to seek the very minimum of open space in future buildings, and even encroach on garden ground which might otherwise be left untouched. That, on the contrary, all encouragement should be given to property holders to leave as much open space as possible around their houses; that new rules should enforce the leaving of larger courtyards in buildings to ensure a better access of air and light to dwellings; and that special advantages should be allowed to property holders who are willing to leave a large proportion of vacant ground around their buildings for making into permanent gardens. The Commission des Amis des Monuments are taking up the matter very strongly, for such a law would fall very heavily on private houses and museums at present surrounded by much vacant ground—ground which is formed into gardens for the enhancement of the buildings, many of which are of public interest.

The Caserne des Celestins, near the Boulevard Henri IV., is about to be demolished as soon as the new barracks now being erected opposite by M. Jacques Hermant, architect, are completed. The Commission du Vieux Paris is busy over the question of saving from destruction the numerous decorative portions of the old building. A ceiling by Bon Boullongne which decorates the large staircase, erected in the seventeenth century, will be preserved, as well as a decorative pediment, built early in the reign of Louis XV., and some valuable painted consoles, and will be set up in the Musée Carnavalet.

The arrangements for the next Salon are the subject of much discussion among the members of the Société des Artistes Français. The committee of ninety, which comprehends the three sections of Painting, Sculpture, and Engraving, has two proposals before it. One, which proposes to give special favour to all artists who have received decorations and medals, has been at once repudiated, and the existing regulation which limits to 1,600 the number of pictures to be accepted by the Jury of Painting will be maintained. But the critics of the Société observe, not without reason, that with this limitation of number, the artists *hors concours*, and who have a right to two pictures each, could by themselves overpass the maximum limit of numbers. The Société includes also the artists "Médaillés" and "Mentionnés," whose works cannot be refused. These conditions would leave no room whatever for the other members, who are organising meetings to consider and defend their interests, and talk of having another exhibition of "dissidents," for which however they can find no locality. The question is a difficult one, and the majority of the artists not yet become celebrated complain bitterly of the large phalanx of dignitaries of art who block their way. The Société Nationale des Beaux-Arts (New Salon) ignores these contests, and the committee of organisation presided over by M. Carolus-Duran—a more pacific character than M. Bonguereau—will adhere to its old rule of allowing each member of the Société to exhibit six works, grouped together.

We have to record the death, at the age of seventy-three, of M. Rouyer the architect, author of the fine Mairie of the tenth arrondissement, which has been illustrated in the *Builder*. M. Eugène Rouyer was a pupil of Baltard, and an artist of great ability, who in the celebrated competition for the Hôtel de Ville was classed next after the successful competitors MM. Ballu and Deperthes, and to whom Paris owes a good many important buildings. M. Rouyer was a Chevalier of the Legion of Honour.

We have also to record the death, at the age of seventy-four, of M. Isidore Bonheur, sculptor, and brother of Rosa Bonheur. He was the pupil of his father Raymond Bonheur, and obtained medals in the Exhibitions of 1865, 1869, and 1889. He was the author of numerous large and vigorous works in animal sculpture; among which may be mentioned the two lions for the front of the Palais de Justice.

## THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A BUSINESS meeting of this Institute was held on Monday at No. 9, Conduit-street, Regent-street, W.

The minutes of last meeting having been taken as read, the results were read of the November examinations. The following are the results :—

A Preliminary examination, qualifying for Probationership R.I.B.A., was held simultaneously in London and the provincial centres indicated below on the 5th and 6th ult. One hundred and eighty-eight candidates were admitted, and thirty-seven were exempted from sitting. The remaining 151 were examined, with the following results :—

| | Passed. | Relegated. | Total Examined. |
|---|---|---|---|
| London..... | 59 | 15 | 74 |
| Birmingham.. | 8 | 3 | 11 |
| Bristol ..... | 7 | 3 | 10 |
| Exeter ..... | 3 | 4 | 7 |
| Leeds ..... | 20 | 6 | 26 |
| Manchester ... | 17 | 6 | 23 |
| | 114 | 37 | 151 |

The following are the names of the successful candidates, together with those exempted, making a total of 151 newly registered probationers :—

W. L. Allen, Regent's Park, N.W.; F. L. Atwell, Plumstead, S.E.; H. J. Axten, Crouch End, N.; C. H. Barlow, Widnes; J. J. Beck, Doncaster; A. L. Belcher, Brixton, S.W.; W. T. Benslyn, Oldbury, near Birmingham; H. E. Bernton-Benjamin, Windsor; A. Bolton, Bingley; A. Boulton, Dundee, N.B.; T. Brameld, Hull; J. E. G. Burroughs, Bristol; H. Carnelley, Barnsley, Yorks; W. Carver, London; E. S. Charlton, Tunbridge Wells; H. G. Cherry, St. Albans; C. Chippindale, Harrogate; H. H. Christie, London; W. T. Clark, Birmingham; W. T. Clarke, Liverpool; R. H. Cochrane, Dublin; J. Cocker, Timperley; G. S. Cockrill, Great Yarmouth; H. R. Collins, Exeter; A. S. Constable, Stocksfield-on-Tyne; W. H. H. Cooke, Stroud; A. Cooper, Rickmansworth; F. C. B. Dabbs, London; G. F. B. Daniell, London; J. S. B. Davidson, Aberdeen; A. H. Davis, London; F. M. Dean, London; D. W. Ditchburn, Leytonstone, N.E.; A. H. Douglas, Maida Vale, W.; A. H. Douglass, Morpeth; G. B. Dransfield, Barnsley; W. T. Duncan, Rochdale; A. Dunn, Birmingham; E. S. Edmonds, Stamford; A. H. Edwards, Leicester; A. C. M. Edwards, Rickmansworth; E. S. England, Blackpool; H. L. Etherington-Smith, Putney, S.W.; E. W. C. Faulkner, Freshfield, near Liverpool; W. G. Fearn, Clacton-on-Sea; H. Fielding, Accrington; A. H. Fitz-Roy, Lincoln; F. B. Foster, Leamington; H. J. Fox, Stamford-hill, N.; D. S. Gardner, Weston-super-Mare; J. H. Goodchild, Crouch End, N.; B. R. Gribbon, Leeds; A. H. Gully, Bedford; R. W. Gunson, Manchester; B. G. Gwyther, Egham, Surrey; G. Hanson, Bradford; F. H. Healey, Bradford; J. H. Higgs, Leicester; H. H. Hill, Liverpool; J. R. Hobson, New Eltham; J. N. Horsfield, Jun., Kingston-upon-Thames; W. H. Huckvale, Tring; A. H. Kirk, Pall Mall, W.; F. R. Jolliffe, Penarth, Glam.; B. W. Jones, Bexhill; G. H. Jones Cardiff; Leon de Barr Kelsey, South Kensington, W.; A. W. Kenyon, Sheffield; A. S Killby, Highbury; C. U. Kilner, Bayswater, W.; S. J. Lampshire, Devonport; A. A. Langham, Wimbledon, S.W.; H. Langman, Southport, Lancs; H. B. Laycock, Manchester; H. G. Lay, Wellingborough; T. Linton, Leith; J. H. Lowry, Liverpool; P. J. Maffey, Southampton; E. H. N. Major, London; H. W. Markwick, Devonport; R. H. Mason, Birkenhead; F. J. Matthews, Clapton, N.E.; M. G. St. J. Maule, Huntingdon; F. C. Mears, Edinburgh; E. H. Mills, Shrewsbury; H. G. H. Mills, Southsea; A. M. Millwood, Barnes, Surrey; E. Milnes, Rochdale; S. W. Mobbs, Lowestoft; E. Morley, Bradford; P. W. Mulready, Brondesbury, N.W.; F. T. Negus, Woburn, Beds.; W. H. Nevell, St. Albans, Herts; G. E. H. Newbold, Gainsborough; J. Norquoy, Manchester; D. M. O'Connor, Southall; S. S. Parkinson, Gravesend; G. Pemberton, Edgbaston, Birmingham; G. E. Peto, Bath; G. E. Phillips, Cambridge; A. P. H. Pierce, London; A. E. Poley, Hampton Hill, Middlesex; W. D. Quirk, London; N. L. Read, Leicester; A. G. E. Rebbeck, Frome, Somerset; H. J. Roberts, Portmadoc; R. G. Roberts, Doncaster; A. H. Robinson, Birmingham; B. Royce, Leicester; W. P. Rylatt, Hull; H. Shackleton, Keighley; W. H. Shute, Newport; E. H. Smith, Leicester; J. W. Smith, South Hampstead, N.W.; J. C. Smythe, Plymouth; R. G. Stevens, Bromley; J. D. Stevenson, Redhill; R. Stockton, Stockport; R. Stokoe, Sunderland; H. S. Stowell, Croydon; P. M. Stratton, Salisbury; L. W. Taylor, Newcastle-on-Tyne; C. E. Tebbs, Upper Tooting, S.W.; F. W. Tempest, Sutton-in-Ashfield; E. E. Temple, Upper Norwood, S.E.; C. à Beckett R. Terrell, Tonbridge; R. A. Thomas, Gosport; M. Thompson, Doncaster; G. M. Trench, East Dulwich, S.E.; J. R. Truelove, Sheffield; R. F. Tucker, Upper Teddington; J. T. Turner, Wanstead, Essex; H. G. Turner, South Croydon; M. J. Wadsley, Hull; P. F. Warren, Norwich; A. J. Watson, Newcastle-on-Tyne; B. Watson, North Shields; R. F. Wheatly, Bromley, Kent; H. E. White, Birmingham; R. W. White, Kentish Town, N.W.; A. H. Whyte, Kensington, W.; T. S. Wilcockson, Chesterfield; L. Wilkinson, New Southgate, N.; H. A. Willatt, Nottingham; E. J. Williams, Leicester; J. R. Wills, Derby; R. H. Willson, Kingston-on-Thames; J. D. Winder, Wandsworth Common, S.W.; A. T. With, Anerley, S.E.; W. O. Wright, Morecambe; J. A. Yells, East Dulwich, S.E.

The Intermediate Examination, qualifying for Studentship R.I.B.A., was held simultaneously in London, Bristol, Leeds, and Manchester, on the 5th, 6th, 7th, and 8th ult., with the following result :—

| | Number Examined. | Passed. | Relegated. |
|---|---|---|---|
| London..... | 52 | 29 | 23 |
| Bristol ..... | 9 | 5 | 4 |
| Leeds ..... | 7 | 3 | 4 |
| Manchester | 11 | 8 | 3 |
| | 79 | 45 | 34 |

The following are the names of the passed candidates given in order of merit as placed by the Board of Examiners :—

A. Scott, Glasgow ; C. M. Crickmer, Regent's Park, N.W. ; H. W. Asman, Bradford ; W. F. C. Holden, Cambridge ; C. H. Brightiff, Southampton ; W. J. Freeman, Halifax ; A. Gilpin, Bristol ; E. L. Hampshire, London ; V. C. Cook, Wolverhampton ; D. Anderson, Hampstead ; J. E. Mundell, Litton, Poole, Dorset ; C. B. Cleveland, Cambridge ; B. D. Tracey, Camden-road, N.W. ; J. H. Taylor, Battersea ; J. Wilcock, Bradford ; C. P. Moss, Crouch Hill, N. ; H. Slater, Preston ; K. D. S. Robinson, Westminster, S.W. ; C. H. Heaton, Wigan ; H. R. Crabb, Exeter ; W. B. Colthurst, Taunton ; A. R. Crisford, Eastbourne ; P. A. Horrocks, Bolton ; E. M. Ellis, London ; P. R. Strong, Balham, S.W. ; F. Sykes, Manchester ; F. G. Brooker, Peckham Rye, S.E. ; W. T. Curtis, West Dulwich, S.E. ; S. H. Rainforth, Lincoln ; J. W. Jarvis, Birmingham ; H. W. Stone, Taunton ; J. T. W. Brooke, Bowdon, Cheshire ; R. W. A. J. Cosway, Wandsworth ; E. Harding, Brixton Hill, S.W. ; F. F. Hobson, Belfast ; E. R. Kennedy, Belfast ; S. Maddock, Frodsham, Cheshire ; L. Morris, New Brompton, Kent ; B. S. Murphy, Edinburgh ; W. R. Osborne, Swindon ; F. I. M. Owen, Liverpool ; S. H. Penlington, Sunderland ; E. R. Sladen, Bourne End, Bucks ; J. B. Smith, Bedford ; C. J. Thompson, London.

The Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London alone from the 15th to the 22nd ult. Sixty-two candidates were examined, and the following thirty-seven passed, the others being relegated to their studies :—

C. T. Adshead, Stockport ; S. W. Bensted, Wandsworth Common, S.W. ; E. G. Besant, Cambridge ; A. E. Biggs, Felixstowe ; A. B Botterill, Streatham, S.W. ; C. A. Broadhead, Nottingham ; H. Busbridge, Plumstead, S.E. ; R. S. Cockrill, Great Yarmouth ; H. L. E. M. De Colleville, Brighton ; W. J. Devlin, Adelphi, W.C. ; W. E. Dobson, West Hampstead ; W. W. Ellison, Erith, Kent ; J. Ewing, Regent's Park, N.W. ; E. L. Gaunt, Ilkley, Yorks ; A. E. Gibbins, Islington, N. ; F. R. B. Haward, Marylebone, W. ; R. E. Hemingway, Nottingham ; A. E. Hughes, Regent-street, W. ; A. T. Hussell, Ilfracombe ; E. W. Lees, London ; E. B. Norris, Birmingham ; L. R. Oakes, West Kensington, W. ; H. F. Ponton, London ; W. B. Rees, Cardiff ; C. H. Reilly, London ; F. G. Richardson, Tufnell Park, N. ; E. G. Rodway, Weston-super-Mare ; G. L. T. Sharp, Barnes. S.W. ; W. Slater, Nottingham ; F. D. Smith, London ; T. M. Smith, Tollington Park, N. ; W. S. Tucker, Newmarket ; A. H. Verstage, London ; J. A. Woore, Derby ; E. L. Wratten, Croydon.

The following shows the number of failures in each subject of the Final :—

| | |
|---|---|
| I. Design | 23 |
| II. Mouldings, &c. | 18 |
| III. Materials | 11 |
| IV. Sanitation | 13 |
| V. Specifications | 1 |
| VI. Construction : Foundations, Walls, &c. | 11 |
| VII. Construction : Iron and Steel, &c. | 10 |

*The Ashpitel Prize.*—On the recommendation of the Board of Examiners the Council have decided to award this Prize to Mr. Charles Thomas Adshead [*Probationer* 1894, *Student* 1897], he having most highly distinguished himself in the Final Examinations held during the current year.

*Special Prize.*—On the recommendation of the Board of Examiners the Council have decided to award a Prize of Books of the value of 10*l.* to Mr. F. Dare Clapham, in recognition of the merit displayed by him in his work at the Special Examination held last June. Mr. Clapham obtained the highest number of marks ever awarded at the Final and Special Examinations.

The following candidates for membership were then elected :—

As *Fellows*—Messrs. B. E. Baily, Nottingham ; John Begg, Consulting Architect to the Government of Bombay, of Bombay ; John Cash, Oxford-street, W. ; H. E. Farmer, Walsall ; Henri Favarger, of Cairo, Egypt, and London ; J. H. W. Hickton, Walsall ; F. E. Masey, Capetown ; M. B. Price, Pietermaritzburg, Natal.

As *Associates*.—Messrs. T. W. Aldwinckle, London ; H. Allberry, Dublin ; J. P. Bishop, London ; C. H. E. Bridgen, London ; H. Cayley, M.A. Cantab., London ; F. D. Clapham, Eltham, Kent ; W. B. Dawson, Westminster ; H. D. Day, Godalming ; W. M. Dean, Strand, W.C. ; L. G. Detmar, Sutton ; T. N. Dinwiddy, London ; L. W. Ensor, Sheffield ; K. Gammell, Strand, W.C. ; L. C. Gregory, London ; C. L. Hall, Blackburn ; J. P. Hall, Kensington, W. ; S. J. Halse, Canterbury ; G. R. C. Harding, Lincoln ; A. Holstead, Alnwick ; E. V. King, South Shields ; A. G. R. Mackenzie, London ; E. G. Page, London ; A. Pickup, Blackpool ; L. E. Pryke, London ; E. J. Pullar, London ; A. H. Roe, Forest Gate, E. ; R. B. Rowell, Colchester ; C. Stretton, Leicester ; J. G. Walker, London ; R. C. Wrinch, Ipswich.

*As Hon. Corresponding Members.*—Senor Don Enrique Mariá Repulles Y Vargas, President of the Central Society of Spanish Architects, of Calle de San Agustin 3, Madrid ; Senor Don M. Alberto de Palacio, Madrid.

Mr. Lacy W. Ridge then moved the following motion, which was agreed to :—

"That the Royal Institute of British Architects desires to thank the Local Government Board for the issue of 'Model By-laws, IV. (Rural Districts).' While doing so the Royal Institute would urge on the Board the desirability of preparing a model to enable Rural District Councils to regulate party-walls as distinct from external walls, a matter for which the Urban Model By-laws, to which the Board refer them, are not available. The Institute grounds this on the belief that the existence of properly constructed party-walls has proved an efficient barrier to the spread of fire, and that it is undesirable that such protection should be withdrawn in places where it has already existed."

The following motion by Mr. H. D. Searles-Wood was also carried :—

"That this Institute urges the Local Government Board to promote a Bill in Parliament to embody those sections of the London Building Act, 1894, which apply to ownership and the mode of dealing with party-walls, and make them apply to the United Kingdom."

A motion by Mr. Herbert W. Wills :—

"That, in the interests of the profession, it would be advisable to have a list of 'Institute Assessors' drawn up, from whom the President would nominate, and that this list be from year to year revised," was withdrawn.

## THE ARCHITECTURAL ASSOCIATION.

AN ordinary fortnightly meeting of this Association was held on Friday evening last week in the Meeting-room of the Royal Institute of British Architects, No. 9, Conduit-street, Regent-street, W., Mr. W. H. Seth-Smith, President, in the chair.

The minutes having been read and confirmed, Messrs. E. G. Dawson, D. N. Paddon, and A. Pomeroy were elected members of the Association.

Mr. R. H. Weymouth was then elected to fill the vacancy on the Committee caused by the appointment of Mr. A. T. Bolton to the position of Master of the Day School.

Mr. R. S. Balfour announced the following donations, viz., "A History of Architecture on the Comparative Method," by the late Professor Banister Fletcher and Banister F. Fletcher ; and twelve photographs of cathedrals, presented by Messrs. Bolas.

### *The New Premises Fund.*

A vote of thanks having been accorded to the donors,

The Chairman said he was glad to be able to announce the following additions to the New Premises Fund :—The Architectural Association, 1,000*l.* ; Messrs. Basil Champneys, 50*l.* ; H. T. Hare, 50*l.* ; E. W. Mountford, 50*l.* ; Ernest George & Yeates, 50*l.* ; John Belcher, A.R.A., 25*l.* ; Beresford Pite, 20*l.* ; E. Guy Dawber, 12*l.* 12s. ; R. S. Balfour, 10*l.* 10s. ; E. M. Gibbs, 10*l.* ; Francis Hooper, 10*l.* ; H. D. Searles-Wood, 10*l.* ; A. Paull, 6*l.* 6s. ; W. A. Forsyth, 5*l.* 5s. ; A. H. Hart, 5*l.* 5s. ; H. P. G. Maule, 5*l.* 5s. ; C. B. Bone, 3*l.* 3s. ; J. H. Squire, 3*l.* 3s. ; F. D. Clapham, 2*l.* 2s. ; W. H. Raffles, 2*l.* 2s. ; G. L. S. Sharp, 2*l.* 2s. ; H. Teather, 1*l.* 1s. ; E. F. Reynolds, 1*l.* 1s. ; A. O. Collard, 1*l.* 1s. ; P. J. Turner, 1*l.* 1s. ; and Stanley Towse, 1*l.* 1s. Mr. Belcher's donation was accompanied by a promise that as soon as the matter was well in hand he would be glad still further to assist them, and, said the Chairman, no doubt there were others who would do the same. He (the Chairman) wished that there had been more guinea donations, for he had more hope in a large number of small donations than in a small number of large ones. Small contributions would show that the scheme was being supported by the general body of members, and that, of course, was what was wanted, for the Committee desired to know that the members were thoroughly in sympathy with the movement. It was not a matter of ambition—*i.e.*, that they were trying to get a fine building ; it was simply a matter of absolute necessity. The lease of the present premises had about two and a half years to run, and the Association must be prepared to give notice and go into new premises at the end of that time, or take the present premises for another seven years, and if they had to take the second alternative the work of the Association would be seriously handicapped. He hoped that the members would do all they could to augment the fund, and that they would remember that it was much easier to get the first 5,000*l.* than the additional 15,000*l.* required. Therefore, although they had every reason to be greatly encouraged by what had already been done, they could not but regard the future with some concern. The Committee counted on the enthusiasm of the members in the matter, and they felt they had it, but he hoped that as many of them as possible would show their hearty support in a practical way by collecting, if they were not in a position to give, something towards the fund. The smallest sum would be welcome, or promises of help—for the money was not necessarily needed at once, though the more they could get together at once the more they would receive in the way of interest. They might begin to build in 1903 ; but in any case they had a great deal to do between then and now.

### *Capitals, &c.*

The Chairman said that Mr. Arnold Mitchell had very kindly undertaken, at short notice, to deliver an address that evening on "Capitals," in place of Mr. Bond, who, unfortunately, was too unwell to keep his engagement, and had been compelled to go to the seaside that day. He (the Chairman) had sent a letter to Mr. Bond expressing their sympathy with him in his illness.

Mr. Arnold Mitchell then delivered an able lecture on "Capitals," or, rather, on the Triforia of English Cathedrals, Tympana, Sculptures, and Capitals, illustrated by a large number of lantern views. As the light was extinguished during the lecture in order to show the views, it was impossible to report Mr. Mitchell's remarks in full, but the following notes will give a general idea of the character and scope of the address. He said he addressed his remarks chiefly to the younger members of the Association, who, perhaps, up to the present had not given much thought to some of the detail and points of interest of the old buildings about which he was going to speak. From the pictorial point of view, was there anything more beautiful than some of our old buildings—than the cloisters at Salisbury, for instance, with the beauty of colour which the photograph could not show ? And if these old buildings possessed interest from the pictorial point of view, how much more interest was there in the detail—in such work, for instance, as Bishop Bridport's tomb at Salisbury ? Had we not in our English churches detail which equalled or surpassed in interest and beauty any foreign work ? It seemed to him that the study of detail was really the most interesting study in mediæval buildings. Take a view of part of the interior of Lincoln Cathedral—the triforium. The triforium in these old mediæval buildings was part of the design which received great thought, and he would like to put before them a short series of views of triforia showing how the design grew and developed. The chief interest in these questions was to see how the builders began from the simplest and most elementary forms, and then gradually worked out those magnificent designs which were produced from the thirteenth to the fifteenth century. In the study of architecture we must realise that no composition was the sudden inspiration of the builders who produced it, but that it was the gradual outcome of what had gone before. Consequently, it was very interesting to trace out the process which

gradually led up to those perfect examples of the Middle Ages.

One of the simplest and earliest of these triforia designs was to be found in Winchester Cathedral. Here could be seen the very beginnings of the Norman period, when the work was crude, elementary, and simple, and when the builders had all to learn and so little upon which to go. They began with the most simple and elementary forms—as, for instance, in the plain ring of stones in the outer and inner arches of the triforium. Even in the tympana there was the same simple use of the stones (for the builders had also to learn how to work and dress the material they used), the crude workmanship, and the wide mortar joints. At Chichester, a few years later, a great improvement was noticeable. In the outer arches of the triforium there was a plain moulding on the stones; and in a simple manner, but so as to produce an impressive effect, the rings of small stones of which the arch consisted were built up and recessed one behind the other. In examining Norman detail and ornament they would see in what an extraordinary way the builders made it tell with the minimum of labour. In the earliest examples, where they dispensed with mouldings altogether, it was remarkable what an amount of effect the builders got merely by recessing those rings of stone one behind the other, and so getting a great architectural effect of light and shade under the recessed rings of stone. The builders in these first examples of architectural history built with an enormous waste of material, simply because they had not learnt what the materials would do for them. It was only in later years that they learnt the advantages of worked stone and dressed beds of masonry. There were thirteenth-century buildings as high as Norman buildings with not one half of the masonry in them, simply because the builders had learnt how to use with advantage the material they were employing. In the tympana of the triforium at Chichester the builders had produced an effect of enrichment in the diaper use of the stones with absolutely no expenditure of skilled labour, but by the simple arrangement of the stones—by taking a square stone and turning it up on edge. Instead of the expenditure of labour, they expended their brains and got this effective result.

In a little later example, at Peterborough, there was the same treatment of the arches of the triforium, and in the tympana there were the diaper patterns, but on the lower edge there was an idea of relief work—an incised ornamental treatment, which was a distinct advance.

Then at Rochester there was a further advance—the same treatment really, but further elaborated. The tympana were enriched by the diaper pattern again, but on each stone there was cut a little low incised ornament which, multiplied throughout the design, gave a very original effect; and yet how simply was each stone treated!

In a later period, at Lincoln, there was a still further advance in the piercing of the tympana spaces instead of working on the surface—a new principle by which a strong, black depth of shadow was got in the tympana spaces. What great possibilities were open to the old builders when this idea was hit upon!

In other examples could be seen a widening and an elaboration by mouldings of the openings in the tympana until the whole space was taken up by these piercings. At Ely, for instance, could be seen how the idea was elaborated, and in such examples refinements were got similar to what could be found in Greek work.

A most beautiful triforium was the eastern extension of the choir of Lincoln Cathedral, where the openings in the tympana occupied the whole of the space, and we got a perfect example of triforium treatment. Perhaps the most beautiful of all was the wonderful triforium at Westminster Abbey, with the refinement of design of the base mouldings of the central shafts set out so as to be seen from below level with the mouldings of the columns of the triforium arch.

As to the sculptures in these mediæval buildings, there was always a purpose behind them. It was particularly important to notice that in these early sculpture works the story was told by means of pictorial representation, quite regardless of true proportions. In the representation of the screen, of Noah and the Ark, he supposed, although there was no proportion, yet how well the story was told! The heads of the figures were large and altogether out of proportion to the figures, and yet the facial expression was obtained, and that was the object the builders had in view.

In the Priests' Door at Ely was another distortion of the human body, but the other way about, *i.e.*, the bodies were out of proportion to the heads; if the figures were to stand up they would look ridiculously tall. There was great difficulty in filling the spaces over these doorways with figures, and if we tried to do the work ourselves we felt greater respect for the old builders, and still more when we realised how they were hampered by the material that they had to use. Not only was the space difficult to fill, but there were the coarse materials and the consequent wide joints to be managed, but these old builders managed to get the vertical lines of their compositions, and the wings, for instance, of their subjects, to correspond with the vertical lines of the joints of the stone.

As an illustration of a later period, he would mention the beautiful arcading round the Chapter House of Salisbury Cathedral, which showed the same perfect type of sculpture work of the kind. One of the interesting points was the series of human heads which formed the stops to the label of the mouldings. The fertility of design was wonderful, and he could not think that the builders in producing work showing such fertility of invention and about which, in the treatment of each individual head, there was so much variety, had any ideal representation of the human form as their object as the men in Greek times had. In the heads on the arcading at Salisbury Chapter House, so different in type and expression one from the other, one saw the representations of men of the day who actually posed as models for the occasion—the actual men engaged on the building, most likely. In the sculpture above were representations of Adam and Eve, with the same want of proportion between the figures and trees, &c., which he had already referred to. Another example, also from the Chapter House at Salisbury, was even of greater interest, *i.e.*, a representation of the building of the Tower of Babel, in which there was the same lack of proportion. The tower was a thirteenth century example of a tower, and no attempt was made to go back to Biblical times for the illustration—the builders just depicted the things around them. Work of that kind threw a valuable sidelight on the methods of doing things in those days. For instance, there was the representation of a man carrying a stone on his head: did that not suggest that stones, &c., were raised on to the buildings by manual labour instead of by mechanical means? Then there was a form of ladder to be seen which no doubt represented the kind of ladder used at the time. We might fairly conjecture, he thought, that in that they saw the kind of ladder used at the time the sculptures were done.

As to capitals, he wanted to show the development which had taken place in them. What he had to say would be obvious to most of his hearers, but there might be some who had not given sufficient thought to these fine old mediæval buildings, which, the more they were studied, the more would be found in them. He would go back to the beginning of things—to Anglo-Saxon times. In the little church at Wittering a square block of stone, with no architectural enrichment at all, was used as the capital. He supposed the idea of church capitals originated in a feeling that the juxtaposition of two diverse forms of structure—*i.e.*, the pier and the arch—must be marked in some way, and the capital was adopted as a dividing line. It was particularly interesting to notice how the builders worked out the design for their capitals. A capital was a feature above the eye of the spectator, and any improvement would obviously take place from the point of view of being seen; where the arch springs, the builders wanted to emphasise the springing line; hence the abacus.

At Sompting Church was to be seen the roughest, rudest type of sculpture-work in the capitals, but there was a smoother, more rounded effect, instead of the square, sharp overhang of the last example.

An example from Peterborough, with the abacus projecting, was a more perfect example, and it showed a far better dividing line than in the previous examples. Zig-zag ornament, to which he would draw their attention, was the most interesting of all Norman enrichments, but the actual ornament was exceedingly simple. The more we studied the Old Norman buildings the more we must wonder at the effect their ornament produced, and yet how little labour they put into it! and that was one of the highest of achievements.

From Rochester Cathedral they had an elaborate system of scollop form of ornamentation, but unfortunately some of it had been restored away since the photograph he showed had been taken.

A capital from Steyning Church showed the introduction of a new principle in the concave form of capital instead of the convex, in which the attempt of the builders was seen to adapt the design so that it might be best seen from below. More room for effect from this point of view was obtained by this concave form of capital, for it afforded splendid opportunities for sculpture work. The leaves of the foliage in these thirteenth century capitals stood out from behind in a wonderful way, and this concave treatment was an enormous improvement, from an architectural point of view, upon the convex treatment. There were 2,000 of these beautiful capitals at Lincoln, and not one was like its neighbour! He did not know of anything which so indicated the resource of the builders as the foliage of these capitals, which was absolutely tossed about in the design. The stalks were stiff, but not the leaves. A beautiful example of a capital was that from the little porch of Skelton Church in Yorkshire.

Mr. Arnold Mitchell then showed several views of Norman doorways, in which sculptures were shown. It was wonderful, he said, to what an extraordinary length moulding work could go, giving a maximum architectural effect. A beautiful doorway was that from Lincoln, and some of the most beautiful sculptured doorways were of this period. At Iffley we saw a moulded doorway, with carved beakheads (an explanation of which he would like to have), and in that we had the beginning of sculpture work before we got to the figure stage. In the Priors' door at Ely Cathedral, through which people did not generally go, though it was well worth while doing so, we had a beautiful example of the elaboration of sculpture work on doorways, of which the Norman builders were capable; and at Barfreston was another beautiful doorway. One constantly came across a rich Norman doorway in a building of a different date, and no doubt that was due to the fact that when buildings were altered and enlarged, the doorway was more often retained or incorporated in a new design, than other parts of the original building. At Barfreston we saw the object of these sculptures; people at the time the work was done were incapable of reading or writing, and so the sculpture subjects were introduced for the purpose of speaking forcibly to them.

He desired to direct their attention to the little church of Copford, near Colchester, for if they were to pass that little building without entering it, they would lose a great deal. Not many years ago the church had some interesting frescoes on its nave walls, but the rest of the interior was whitewashed. At the recent restoration the whitewash was carefully removed from the chancel, with the result that there was revealed quite the most finished and beautiful example of colour decoration in a church in the whole country, which, only a few years ago, no one knew existed. In some places the whitewash was something like one-eighth of an inch in thickness. We were so accustomed to see in our churches bare masonry, that we were apt to be amazed to find in a building like the little church at Copford colour decoration so fine. The restoration work had been most carefully carried out, and the frescoes had been slightly strengthened and repaired. The result showed how carefully restoration work should be carried out, and also that they as architects would be well repaid for their care if they got results such as those to be seen at Copford.

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The Chairman said one never tired of going into the matters Mr. Mitchell had dealt with, but when a man had mastered his subject as Mr. Mitchell had, and when he had also had considerable experience as a lecturer, it was a real pleasure to hear such an address as they had heard that evening—an address which was not only so interesting, but was of practical importance too. He cordially agreed with Mr. Mitchell's remark as to cost being saved by the application of brains in work, and if architects would only impress the public, and particularly their clients with the belief that they used

their brains in their work in order to save the pocket of the client, instead of throwing as much detail of a costly nature into their work as they could, they would bring much more credit to the profession, enjoy their work much more and increase their clientele at the same time. As to the refinements in the works referred to by Mr. Mitchell, there was no doubt, as Mr. Reginald Blomfield pointed out in his book on the Renaissance, men like Wren learnt to do their work so much by observation on the spot—by observing the effect of each feature as it was built up, very often varying it from time to time as the result of those observations. Those architects were not paper architects. He recently asked an architect for a donation on behalf of the work of the Association, but unsuccessfully, the architect whom he asked remarking: "I do not agree with paper architecture, and I don't want to encourage paper architects." His, the speaker's, reply was: "Neither do we; we try to make our architectural student a practical architect." In listening to Mr. Mitchell's address, his opinion as to the importance of studying Gothic had been confirmed. In looking at the drawings of Gothic work submitted by students in the Institute examinations, he had been very much struck by the atrocious character of many of them. The sheets of testimonies of study for the Institute examinations were, as a rule, as bad as they could be, and when the candidates were asked why they had chosen such villainous examples when there were such beautiful examples to select from, they usually replied that there was no encouragement in the schools—no examples, no models. The London candidates had not that excuse, for there was the Architectural Museum, and also South Kensington, where there were beautiful examples which students could measure. It was just this: Gothic was out of fashion. We must take care that we did not sacrifice the individuality of our English architecture; we should do so if we dropped the study of Gothic as students of architecture. We found in Gothic what we did not get in Classic, *i.e.*, the freedom which was at the bottom of our English character and which was translated in stone in our English architecture at every period. We needed that spirit of freedom which the study of Gothic could give us, and which resulted in that infinite variety which Mr. Mitchell had mentioned. He was not able to agree with those who argued that in the design of mediæval buildings there was no architect or master mind conceiving the whole, and that it was left to individual workmen, working in some sort of concert, to produce these beautiful works. The more he thought the matter out the less he was inclined to agree with that theory. On the contrary, to him it was absolutely proved that there was a master mind concerned in the erection of those great buildings, though he believed that the individual workman had great liberty in the design of the detail he carried out. In his opinion, the modern architect could obtain much the same happy result if he would only give craftsmen under him more freedom of the same kind.

Mr. Alex. Wood, M.A., in proposing a vote of thanks to Mr. Mitchell, said he had listened with the greatest pleasure to Mr. Mitchell's address, and he had seen with equal pleasure the beautiful lantern views. He did not agree with Mr. Mitchell's remarks in regard to the rather curious floriated carving in the tympana at Rochester Cathedral. It did not appear to be truly Norman work. The sculptures appeared to be a sort of copy, and were not genuine. It was difficult also to see how the eastern part of the crypt at York was genuine Norman work. There was considerable study of Norman work in the fifteenth century, and it looked as though the builders had familiarised themselves with it, and either tooled the old work or did the real thing. The porch at Skelton had been shown as a splendid example of a village church porch, but the tradition of the neighbourhood was that it was done by the masons employed on the transept at York. If they studied Christian's book carefully, they would find that Skelton was not considered a fair example of a village church, *i.e.*, a genuine growth of the village mind, but was rather an importation from a large town. He was glad that attention had been called to the church at Copford, in Essex; it was really a Byzantine church, and had evidently had a string of domes, which were broken up in the early centuries, and turned into an Early English building. The painted work seemed to have a strong Byzantine character about it.

Mr. C. H. Brodie seconded the vote of thanks to Mr. Mitchell for a delightful lecture.

Mr. H. P. G. Maule supported the vote of thanks. He agreed that they could not study Gothic work too much, for even if they did not design in Gothic, they could not get too much of the spirit of the Gothic builders into them. We could not do better than try and get the spirit in which they worked in those days and the joy they put into their work. With regard to the beak heads on the doorways, to which Mr. Mitchell drew attention, he did not know if there was anything in it, but it had occurred to him that in country districts one often saw stoats, and crows, and cats nailed up on barn doors, and after a time nothing was left but the skeleton. In the case of the crow, the part in such circumstances that was most prominent was the beak, and it was just conceivable that in past days some one may have seen this beak nailed upon a door and may have taken a hint from that.

The vote of thanks having been heartily agreed to,

Mr. Mitchell, in reply, said that every one of the photographic views shown that evening belonged to the Association, and had been presented to the Association a year or two ago, and he had used them so that they might get adequately noticed, for they were really splendid photographs, and he did not think that they had been so far properly valued. As to Mr. Maule's point about the beak heads, it had occurred to him while Mr. Maule was speaking that perhaps they were grotesque beasts put round the doorway to frighten away evil spirits; and when it was known what superstitious notions the people had in those days, the suggestion he had made might seem to have something in it. It used to be the fashion in olden days to have, at the time of baptisms, the south and north doors open, the idea being that the spirit of the natural man should leave by the north door and the holy spirit enter and take possession by the other. There might be something in the suggestion; at all events, the beak heads were seldom on the south door. He desired to say another word or two as to the photographs he had shown, and which, as he had said, were the Association property. Owing to the totally inadequate arrangements for properly showing the views upon the screen the views had not been done justice to, and he thought that the Association in their own interests should see that something was done in the matter.

The Chairman said it was true, as Mr. Mitchell said, that the photographs belonged to the Association, but it was entirely due to Mr. Mitchell that they did so. The photographs were presented by Mr. Gardner, thanks to Mr. Mitchell. He quite agreed with Mr. Mitchell's remarks about the screen. It was time they approached the Institute and asked them to join the Association, not only in improving the method of lighting the lantern (for they were always running risks with the bottles of gas), but also in getting a better screen.

The Chairman announced that the next meeting will be held on December 13, when Mr. J. E. Forbes will read some notes descriptive of his Travelling Studentship tour.

The meeting then terminated.

## THE ARCHITECTURAL ASSOCIATION DISCUSSION SECTION.

The third meeting of the present session of the Discussion Section of the Architectural Association was held at 56, Great Marlborough-street, W., on Friday, November 22, Mr. R. H. Weymouth in the chair.

The paper announced to be read by Mr. Vivian H. King being unavoidably postponed till next February, Mr. George H. Smith, Vice-chairman, kindly took his place, and at a few days' notice prepared a paper on "Canterbury Cathedral," which was illustrated by plans, showing its development from Early Saxon times down to the present building, Mr. F. G. Osborne Smith lending his services to show with the A.A. lantern a fine selection of views of the cathedral specially prepared by Messrs. Bolas & Co.

Commencing with the traditions of an old Roman church, the landing of Augustine in 597, and early Saxon times—following a supposed restoration of that early church by Professor Willis—Mr. Smith traced the gradual growth of the present structure, especially calling attention to Archbishop Lanfranc's work in 1070 and Prior Ernulf's in 1093, and the glorious Choir of Conrade destroyed later by fire. In 1170 took place the tragic martyrdom of Thomas à Becket, followed later by his canonisation and the great pilgrimages to Canterbury of mediæval times. William of Sens and his successor in 1189, William the Englishman, and their great additions to the Cathedral, for the most part still remaining, and all the additions and destructions up to modern times, were alluded to, the slides shown at the close of the lecture greatly enhancing its value.

The Chairman proposed a hearty vote of thanks to Mr. Smith and Mr. Osborne Smith, alluding to the wonderful vistas obtained by the flights of steps in the Cathedral. Mr. Tayler seconded, and Mr. Wonnacott supported it, Mr. Wonnacott remarking how studying the vaulting of the Cathedral is most instructive, and, incidentally, how few members were aware of the fine set of slides the Camera Club had of Canterbury. The discussion was continued by Mr. Jacobs, Mr. Dudley Forsyth, and Mr. Barwell. The vote of thanks being carried with acclamation, Mr. Smith replied and the meeting was ended.

The next meeting was announced for Friday, December 6, at 7.30, when Mr. Sydney Perks is to read a paper on "The Ethics of Dilapidations," Mr. Douglass Mathews hoping also to attend as Special Visitor.

## *COMPETITIONS.*

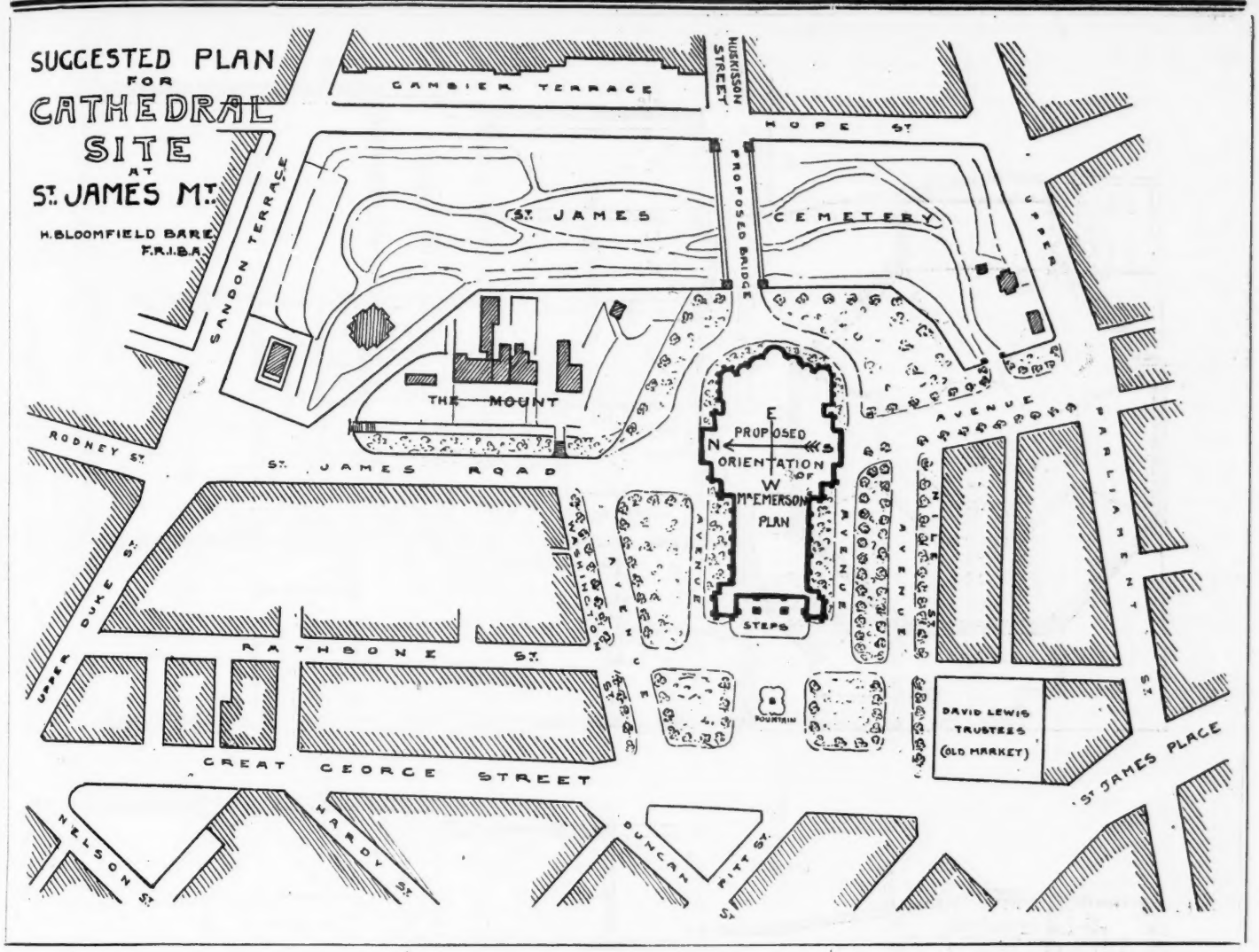
Hawick New Library.—At a private meeting of Hawick Town Council, on the 29th ult., the plans for the Carnegie Library were considered, and it was resolved to recommend the public meeting of the Council to accept the plan signed "Teviot," by Mr. Scott, of Messrs. Scott & Campbell, architects, Queen-street, Edinburgh.

## *ARCHITECTURAL SOCIETIES.*

Edinburgh Architectural Association.—A meeting of the Edinburgh Architectural Association was held on the 28th ult. in the rooms, No. 117, George-street, Mr. Henry F. Kerr, president, in the chair. Mr. Louis A. Barnier, B.A., delivered a lecture on "The Old Monuments of Provence." The lecture opened with some remarks on the history of the country, and showed how the influence of Greek and Roman civilisation began earlier and finished later than in the rest of the Gaul, and therefore left a stronger mark on the people, who have ever since preserved an individuality, and have been, so to speak, a nation apart from the rest of the French. Some of the monuments, Roman theatres, amphitheatres, temples, mausoleums, &c., in the following towns were specially mentioned:—Orange, Avignon, Tarascon, and Beaucaire, Arles, Aignes, Mortis, Carcassone, and Nimes. These buildings were also illustrated with a set of limelight views. At the conclusion of the lecture, Mr. Hunter Crawford proposed a hearty vote of thanks to Mr. Barnier for his lecture, which was duly accorded.

## *ENGINEERING SOCIETIES.*

Society of Engineers.—At a meeting of the Society of Engineers, held at the Royal United Service Institution, Whitehall, on the 2nd inst., Mr. C. Mason, President, in the chair, a paper was read on "The Sewage Question during the Last Century" by Mr. H. Alfred Roechling, C.E., F.G.S. After some preliminary remarks relating to his subject, the author gave a short history of the theory and practice of sewage purification during last century. Concerning its theory, he remarked that from the position of pure instinct, it had advanced through various stages, until at last Pasteur and others had given it that form it now generally took, viz., that in sewage purification, mechanical, chemical, and biological agencies played an important part, and that the decomposition of the organic matter was in the main a biochemical process. Dealing with the practice of sewage purification, the author observed that the only known method of sewage treatment at the dawn of the last century was irrigation on land. He then pointed out how, years afterwards, chemistry had tried to make a lucrative business out of it; how Commission after Commission, and, in fact, every authoritative




inquiry, had expressed an unmistakable verdict in favour of land treatment; and how, in consequence of this mass of accumulated evidence, the Local Government Board had been compelled to insist on land treatment of the raw sewage or effluent in any scheme of sewage disposal for which its sanction had been asked. But the author observed that even the best of land could not do its work for ever if it was not well looked after; and so it happened that through gross neglect and ignorance, the apparent failures created a strong feeling against land treatment, and finally led to the appointment of a new Royal Commission. This new Commission had just issued its interim report, in which it had re-established land in its position as the first and only natural method of sewage treatment, and had termed all the biological or bacterial methods "artificial," some of which would be admissible without land. The author next referred to the natural self-purification of sewage, or to the self-purification of sewage in the only natural medium, land, and considered in detail the self-purifying powers of land, mentioning amongst other things that besides its retentive and absorbing properties it possessed also the power to decolorise, to deodorise, and to retain and render harmless such poisons as strychnine, nicotine, &c. The self-purifying process, he said, might be likened to a process of digestion, and when the digestive powers of land had been overtaxed, sickness was the only natural result. After describing the work of bacteria in the soil and some products of their activity, the author stated that experience and experiment had proved that the chances of pathogenic germs doing further harm on sewage farms were exceedingly remote. No soil, with the exception of peat—owing to its great amount of moisture—was probably entirely useless, and a loamy sand subsoil had, in many instances, proved very effective. The depth of soil necessary for purification depended on local conditions, such as the character and thickness of the top soil (humus), the nature of cultivation of same, the character of the subsoil, especially its facilities for retaining and exchanging air quickly, the surface slopes of the land, and the level of the subsoil water (thickness of the zone of evaporation, and of the passage and capillary zones). Dealing next with the artificial self-purification of sewage or the self-purification of sewage in artificial media, the author remarked that, apart from the sludge difficulty (which had been reduced, but not altogether removed), these artificial methods had given very fair and encouraging results concerning the chemical purity of the effluent. But whilst warning his hearers not to expect that these theoretical results would be reached in practical working, and incidentally mentioning two cases of failure of works of this kind, he drew attention to the bacterial impurity of the effluent, which was little better in this respect than raw sewage. The Legislature, however, could not contemplate without the gravest concern the wholesale admission of pathogenic germs into the streams, as an action might lie against a Sanitary Authority for causing an outbreak of typhoid fever lower down the stream. After stating that the excessive quantities of manurial elements in the effluents from artificial self-purification works might engender such a luxuriant vegetation in the streams as to obstruct the natural flow of water and to completely cover the whole bed, the author stated that the objections raised led, in the natural order of things, to the supplementing of the artificial methods by the only natural one—land—when all reasonable requirements would be satisfied. It might likewise prove advantageous to partially treat the sewage by an artificial method before using it on the land. No system, however, would prove successful unless the present method of supervision of sewage-disposal plant was radically altered and the education of future managers systematically taken in hand.

THE INSTITUTION OF CIVIL ENGINEERS.—At the ordinary meeting on the 3rd inst., Mr. Charles Hawksley, President, in the chair, it was reported that eighty-two candidates had been admitted as students. The monthly ballot resulted in the election of one member, viz.:—C. E. Allan (Belfast), forty-three associate members, and six associates.

THE SANITARY INSTITUTE. — The Secretary informs us that it has been decided not to hold the sessional meeting of the Sanitary Institute on December 11, as given in the calendar in the Supplement to the "Journal."

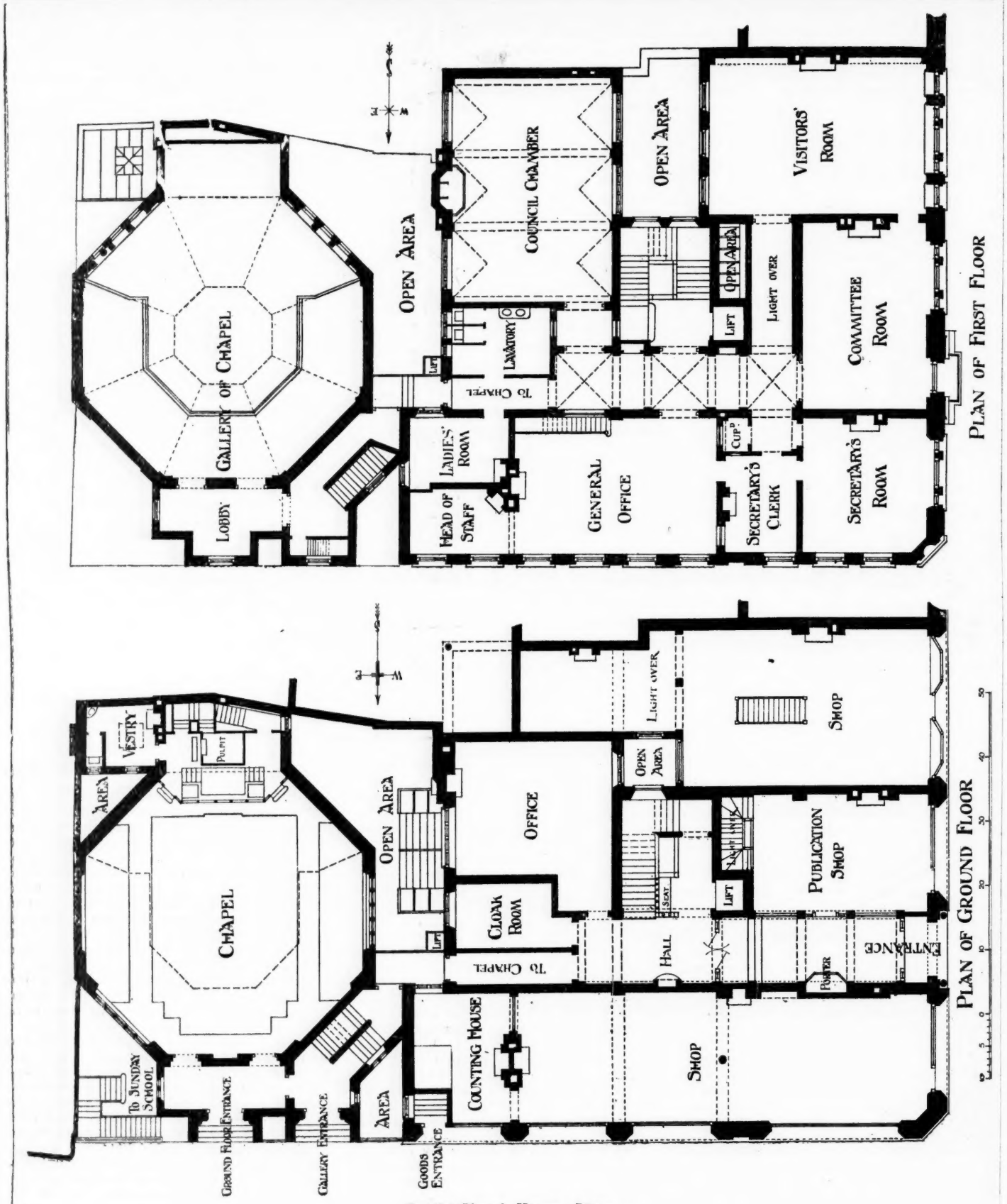
## SUGGESTED MODIFICATION OF THE LIVERPOOL CATHEDRAL SITE.

THE accompanying plan was made by a Liverpool architect, Mr. Blomfield Bare, as an extension and improvement on the site proposed by the Committee for the Liverpool Cathedral. The plan of the Committee's site we gave on page 431 *ante*, though we were not informed at that time as to what portion of the site they propose for the Cathedral. We have since learned that (as we supposed) it is confined to the long narrow portion called St. James's Mount, now laid out as a garden, and that the Cathedral is not to trench on the cemetery. That would of course mean that the Cathedral must be aligned north and south.

Mr. Bare suggests acquiring more land to the west of St. James's Mount, and placing the cathedral as shown on his plan. This is undoubtedly an improvement, but it would be costly, and it would still leave the cathedral in an out-of-the-way position and facing a poor collection of second-class streets; and Great George-street, which would run past it, though a wide street, is not an important thoroughfare. There is also a great fall of the ground westward, which would necessitate, we should think, a more extensive flight of steps than is indicated in Mr. Bare's plan.

Though we publish the plan as a clever attempt at a new solution of the problem, we are as far as ever from approving of this situation for the cathedral; and we believe that, in spite of the declaration of the committee that they will abide by their intention, they will be met by such a systematic opposition to it in Liverpool as will probably compel them to give way.

POST OFFICE, COLWYN BAY.—New post office buildings have been designed by Messrs. Booth, Chadwick, & Porter for Colwyn Bay, the cost being estimated at 4,000*l*. The plans have been approved by the Postmaster-General and the Treasury. On the ground floor will be a large public office, the Chief Clerk's room, messengers' room, and sorting-rooms; the first floor will contain the Postmaster's office; and the second floor the telephone and telegraph instrument rooms. It is a four-story building, and will consist in the main of buff bricks and terra-cotta dressings.




*Baptist Church House. Plans.*

## Illustrations.

### THE BAPTIST CHURCH HOUSE.

THIS building is being erected in the widened part of Southampton-row which forms the beginning of the new street from Holborn to the Strand, and it is the first building to be started in the street.

It forms the headquarters of the Baptist Union, and on the ground floor there is a large shop for the publication department of the Union. The site was partly occupied by the old Kingsgate-street Chapel, and a new chapel is being built to take the place of that building.

It was at first proposed to build a library over the chapel, and the octagonal form shown on the plan was adopted to get over difficulties of lighting. Some arbitrary divisions of the site that had to be adhered to made any regularity of treatment in the street front difficult, and therefore I have tried to group the various features so as to get balance and composition without too much regard for symmetry or classical conventions.

A small first contract was carried out by Messrs. G. S. S. Williams & Son, and the main building is now being built by Messrs. Higgs & Hill.

ARTHUR KEEN.

### SELECTED DESIGN FOR NEW MANCHESTER FIRE-STATION.

WE give this week the two principal plans, and two elevations and two sections, of the design by Messrs. Woodhouse & Willoughby to which the first premium has been awarded in this important competition.

We commented on the design at considerable length in our last issue, and it hardly requires any further explanation.

The object of the architects has been to combine symmetrical arrangement with a thoroughly municipal character, and to group the departments so as to give priority to the more important ones.

As many advantages are attained by planning the firemen's tenements to London-road in one continuous block similar to those in Fairfield-street, they have placed the gymnasium longitudinally parallel to Whitworth-street rather than to London-road (as shown on the sketch plan); and by a further minor re-adjustment of these tenements thirty-four complete sets are obtained in one scheme, of a larger and more uniform size as compared with the thirty-two sets shown in the sketch plan.

The buildings are to be warmed by heated air on the "plenum" system. The heating of the police-station is calculated so as to give a complete change of air in the cells every ten minutes.

The architects' estimate of cost is 74,930*l*.

## DESIGNS FOR JEWELLERY AND UTENSILS

ALL the work here illustrated is from designs by Mr. C. R. Ashbee, with the exception of the tankard, No. 8, which was designed by Mr. J. Witham and executed by Mr. A. Cameron.

No. 1 is a gold chain and pendant, with silver links set with pearls, designed and executed by Mr. Ashbee. The pendant is the figure of an angel cast in silver, with gold wings, under a canopy of blue enamel, and large pearl drops at the bottom.

No. 2 is a muff chain in oxidised silver with pearl facings; it was executed by Mr. J. McQueen.

No. 3 is a gold necklace, executed by Mr. C. Mason and Mr. A. Cameron. It is set with turquoise and enamels, as also the pendant.

No. 4 is an oxidised silver vase with enamelled lid mounted with a cluster of red cornelians; executed by Mr. C. Fawcett and Mr. A. Cameron.

No. 5 is a copper-gilt chalice set with carbuncles, executed by Mr. W. Hardman and Mr. A. Schonwerk.

No. 6 is an electric-light fitting in pewter and iron, made by Mr. W. A. White.

No. 7 is a copper-gilt jug, made by Mr. J. Bailey and Mr. A. Schonwerk, and No. 8 a copper-gilt biscuit-box.

All the work was done, we believe, at the Guild of Handicraft at Essex House, Mile End-road, under the direction of Mr. Ashbee.

## THE NEW GOVERNMENT OFFICES.

THE following correspondence has taken place between the Institute of Architects and the Office of Works, in reference to the carrying out of the late Mr. Brydon's design for the new Government offices in Great George-street:—

"Royal Institute of British Architects,
9, Conduit-street, Hanover-square,
London, W.,
November 8, 1901.

To the Right Hon. A. Akers-Douglas, M.P., First Commissioner of Works and Public Buildings, Storey's-gate, S.W.

SIR,—The council of the Royal Institute of British Architects have taken the opportunity of their first meeting of the Session to pass a unanimous resolution that representations be respectfully addressed to his Majesty's Government with regard to the present proposal to execute the new Government buildings in Parliament-street from the late J. M. Brydon's designs without the aid of a specially-appointed architect of repute.

The council, with the warm support of the Presidents of all the architectural societies in the United Kingdom in alliance with the Royal Institute, whose names are appended as signatories to this letter, venture to express the earnest hope that even at this eleventh hour an architect in sympathy with Mr. Brydon's artistic ideals may be appointed to superintend the erection of this vast building, which, if not very carefully detailed in the spirit in which it was designed, will lose much of the grace with which Mr. Brydon, had he lived, would have clothed it. They would also, with all deference, point out that it is only during the execution of his building that the architect himself arrives at the true development of his original conception, so that, for the successful execution of work of this important character, the inventive genius of a sympathetic colleague of the original designer is essential.

The council of the Royal Institute of British Architects earnestly and respectfully urge the above considerations upon the attention of his Majesty's Government.

We have the honour to be, Sir, your most obedient servants,

WILLIAM EMERSON, President Royal Institute of British Architects.
THOMAS DREW, Kt., President Royal Hibernia Academy (Member of Council R.I.B.A.).
GEORGE C. ASHLIN, President Royal Institute of the Architects of Ireland.
F. MARSHALL, President Sheffield Society of Architects and Surveyors.
S. PERKINS PICK, President Leicester and Leicestershire Society of Architects.
ALFRED DARBYSHIRE, President Manchester Society of Architects.
JOHN JAMES BURNET, President of the Glasgow Institute of Architects.
FRANK CAWS, President of the Northern Architectural Association.
FRANK W. WILLS, President Bristol Society of Architects.
ARTHUR MARSHALL, President Nottingham Architectural Society.
F. M. SIMPSON, President Liverpool Architectural Society.
W. H. BIDLAKE, President Birmingham Architectural Association.
BUTLER WILSON, President Leeds and Yorkshire Architectural Society.
H. G. LUFF, President Devon and Exeter Architectural Society.
JAMES P. BRUCE, President Dundee Institute of Architecture, Science, and Art.
C. H. CHANNON, President York Architectural Society.
EDWIN CORBETT, President Cardiff, South Wales, and Monmouthshire Architects' Society.
ARTHUR CLYNE, President Aberdeen Society of Architects."

"H.M. Office of Works,
Westminster, S.W.
November 28, 1901.

SIR,—I am directed by the First Commissioner of his Majesty's Works, &c., to acknowledge the receipt of your letter of the 8th inst., together with a resolution signed by the President of the Royal Institute of British Architects and others; and to say that Mr. Akers-Douglas quite appreciates the point of view of those who would prefer some other method of carrying out Mr. Brydon's work than that upon which he has decided.

It was, however, after careful examination, during which none of the considerations now urged were overlooked, that the decision to carry out the designs by the agency of Mr. Henry Tanner, F.R.I.B.A., the principal architect of this Department, was arrived at.

I may say frankly that among architects of high repute the First Commissioner failed, after some confidential inquiry, to discover any one sufficiently in sympathy with Mr. Brydon's artistic ideals to subordinate his own inventive genius to that of the original designer.

It appeared to Mr. Akers-Douglas due to the memory of Mr. Brydon that his work should remain intact, and that the designs which he left should be carried out with as little variation as possible. The question as to whether these drawings are in a sufficiently complete state to enable this to be done is one upon which the First Commissioner is aware opinions differ; but he has confidence in the judgment of his technical advisers, and he will be ready to exhibit these drawings to Parliament should his action, as a Minister of the crown, be hereafter questioned.—I am, Sir, your obedient servant,

ESHER.

The Secretary, Royal Institute of British Architects, 9, Conduit-street, W."

## INSTITUTE OF SANITARY ENGINEERS:

### ANNUAL DINNER.

THE annual dinner of the Institute of Sanitary Engineers was held at the Holborn Restaurant on Wednesday evening. Dr. J. B. Wilkinson, Medical Officer of Health for the County-Borough of Oldham, presided, and amongst those present were Dr. J. C. Thresh (president-elect), Mr. W. J. Wells, Mr. H. M. Dove, C.E., Messrs. N. W. Hoskins, C. E. Butcher, T. W. Deadman, F. W. Mason, and Arthur E. Ashby (secretary).

After the loyal toast had been honoured, Mr. A. Baker proposed "The Navy and Army."

Lieut.-Col. W. R. Smith, V.D., acknowledged the toast, and said that circumstances which had recently occurred made him very interested in the prosperity of the Institute. He was, as they knew, connected with the Royal Institute of Public Health, which was housed under the same roof as the Sanitary Engineers. He knew they had had some anxiety lately, but he hoped, after the consolidation which had taken place between them, that they would go forward and achieve a very great measure of success, and that in every possible way they would do for themselves and the country what was so much needed. So far as his Institute was concerned, it would always be delighted to help and co-operate with the Sanitary Engineers.

Mr. G. P. Reveirs, Chairman of the Sanitary Publishing Company, submitted the toast of the evening, "The Institute of Sanitary Engineers." In spite of what was said about America and Germany being ahead of us, there was one science in which we excelled—that was the science of sanitation. No doubt we had become a little spoilt by prosperity, but he considered that if we dealt with the question in a practical way we should get abreast of our international rivals as time sped on. In the past, he regretted to say, the voices of labourers in the work of sanitary science had been like those of the prophets—in the wilderness. To-day, however, a large proportion of the inhabitants of this country were friendly to them, a certain proportion were interested in their work, and a minority were hostile. But even the latter were gradually coming to their side. Their greatest difficulty was ignorance; the next, vested interest. In fact, sanitary engineers were engaged in the greatest crusade of our time. Sanitation was the handmaid of religion—a fact that was only just beginning to be realised. Another science that had always gone with theirs was that of medicine. Referring to the problems that confronted them, he spoke of the housing of the working classes, and urged that membership of that Institute should be a guarantee that the advice or the work put in by members would be of the very best. He trusted this would be borne in mind, and that increased attention would be given to the Institute. Unfortunately, through the death of their late secretary (Mr. Kemsley) they had not been able to hold some meetings as in previous years, but he hoped that in the years to come their meetings would be better attended, that they would have more of them, and that the papers would be more distinct and of growing value.

The Chairman, in responding, said the Institute was born in the closing decade of the last century, and he trusted it would be fed on food upon which it would thrive. He agreed that the housing of the working classes was one of the great problems that confronted them. True, we were very much better now in the matter of housing than in those years long past, when, according to an eminent public health servant, people were considered well off so long as there was only one family in each corner, but when a new family came to the middle of the room there was some difficulty. Such things as that were, happily, now of the past. Sewage disposal was another problem facing them, and he regarded the Institute as of the highest value in giving them facilities to bring forward their difficulties and failures for criticism.

Dr. Thresh proposed "The Chairman and Members of Council," and Messrs. W. J. Wells (Chairman), F. J. Rayner, and E. R. Palmer responded.

"The Visitors" was given by Mr. H. M. Dove, and acknowledged by Mr. A. Baker, solicitor to the Institute.

## THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday, in the County Hall, Spring-gardens, Mr. A. M. Torrance, Chairman, presiding.

*Loans.*—On the recommendation of the Finance Committee it was decided to lend Poplar Borough Council 3,680*l.* for sewer and channelling works and 3,100*l.* for street lighting purposes; Fulham Borough Council 3,550*l.* for underground conveniences; and Guardians of Wandsworth and Clapham Union 13,460*l.* for erection of schools.

*Telephones.*—The Post Office Telephone scheme was discussed at considerable length, on a recommendation of the Highways Committee that regret should be expressed that it did not secure to the public the advantages they had been led to expect. The recommendation was agreed to, with an addition that the Postmaster General be asked to receive a deputation on the subject.

*A Limehouse Housing Scheme.*—The Housing of the Working Classes Committee submitted sketch plans of a housing scheme which the Stepney Borough Council had undertaken to carry out at Queen Catherine-court, Limehouse. The County Council had undertaken to contribute half the net cost, not exceeding 3,200*l.*, and the plans were for a block of five-story balcony dwellings, to accommodate 130 persons in eleven tenements of two rooms, and fourteen tenements of three rooms.

The Council approved the plans.

*Gas Testing.*—A report of the Public Control Committee drew attention to the refusal of the South Metropolitan Gas Co. to comply with the notification of the Gas Referees relating to the cleaning out of the service pipes at certain testing places, the result being that no tests could be made. It was recommended:—"That the Board of Trade be urged to deal at once with the matter of the refusal of the South Metropolitan Gas Co. to comply with the notification of the Metropolitan Gas Referees with regard to the cleaning out of the service pipes at gas testing-places."

The recommendation was agreed to.

*Isolation Hospital, Colney Hatch Asylum.*—It is proposed to erect an isolation hospital at this asylum. It is intended to provide accommodation for three male and three female patients

and the necessary staff. The dormitory has been arranged for two beds, each having a space of 2,000 cubic feet, the single rooms having a similar capacity. The building is being connected with the late chaplain's house by a corridor open at the sides and roofed over, the day rooms, nurses' room, lavatory, kitchen and scullery accommodation being provided by utilising the latter building. The cost of this hospital is estimated to be the same as the amount originally voted, viz., 2,000*l*. The new plans have now been approved by the Home Secretary, and the Asylums Committee recommended that the Council do sanction the alteration of the plans of the isolation hospital at Colney Hatch Asylum to enable accommodation to be provided for three male and three female patients with the necessary staff, instead of four female patients as originally contemplated.

The recommendation was agreed to.

*Theatres, &c.*—Approval was given, on certain conditions, to the carrying out of the following works :—

Alterations to the back portion of the St. John's Schools, Peel-grove, Bethnal Green (Mr. A. Cox for Mr. D. Keymer).

Alterations, Balham Music Hall (Mr. Cronk).

Arrangements of seating in men's first-class swimming-bath at the Battersea Public Baths, Nine Elms, when such bath is converted into a concert-hall (Mr. W. M. Wilkins, for Battersea Borough Council).

Arrangements for the electric lighting of the Battersea Public Baths, Nine Elms (Mr. H. R. Forbes Mackay for the Battersea Borough Council).

Fire-resisting screen to the proscenium opening at the Britannia Theatre, Hoxton, and the ventilation of the stage, &c. (Mr. B. Crewe for Messrs. W. S. & A. L. Crauford).

A re-arrangement of the artistes' entrance and the provision of new external doors to the scenery entrance to the stage, and of a new pair of swing doors to the stalls entrance at the Empress Theatre of Varieties, Brixton (Messrs. Wylson & Long).

A small pass door at the Hackney Empire, between the upper circle saloon and the gallery staircase (Mr. F. Matcham for Mr. Oswald Stoll).

Alterations to the lavatory accommodation at the Murphy Memorial Hall, Gurney-street, New Kent-road (Mr. A. S. Taylor).

An alteration in the position of an iron door between the o.p. side of the stage and the stairs leading to the basement of the Oxford Music-hall (Messrs. Wylson & Long).

*District Surveyors' Districts—District of Paddington.*—The Building Act Committee reported as follows, the recommendation being agreed to :—

"Our report on the district surveyors' districts under the London Building Act, 1894, submitted to the Council on November 19, 1901,* contained a recommendation with respect to the district of Paddington which we instructed our chairman to withdraw, as we considered it desirable to have some additional information on the subject. Upon further consideration, we have decided to make no alteration in the terms of the recommendation. We recommend—That Mr. F. R. Meeson, District Surveyor for East Hackney, North, be transferred and appointed to the vacant district of Paddington upon the conditions now in force regulating the appointments of new district surveyors; that the western limit of the district of Paddington, from Kensal-road to Kensington-gardens, be adjusted so as to coincide with the boundary of the Borough of Paddington at that part; that such transfer and appointment do take effect from January 1, 1902; and that advertisements be issued inviting applications for the appointment of District Surveyor for East Hackney, North."

*Tribunal of Appeal—Corbett v. London County Council.*—The same Committee reported as follows, the recommendation being agreed to :—

"The Council on July 16, 1901, refused to sanction the formation of a new street out of the west side of Torridon-road on the St. German's Estate, Hither Green, Lewisham. Mr. A. Cameron Corbett, M.P., on whose behalf the application had been submitted, appealed to the Tribunal of Appeal, and the appeal was allowed, subject to the reservation of a strip of land running from the south-west corner of the new road for a future extension to a proposed road on the estate. A form of agreement, to be entered into between the Council and Mr. Corbett in accordance with the order of the Tribunal is being prepared, and we ask authority to have the seal of the Council affixed to the agreement in the event of such sealing being necessary. We recommend—That the seal of the Council be affixed to the agreement to be entered into between the Council and Mr. A. Cameron Corbett, M.P., in accordance with the order of the Tribunal of Appeal in the case of the formation of a new road out of the west side of Torridon-road on the St. German's Estate, Hither Green, Lewisham, in the event of such sealing necessary."

*St. Dunstan's, Stepney.*—The Historical Records and Buildings Committee reported as follows :—

"The Council is probably aware that on October 12, 1901, St. Dunstan's Church, Stepney, one of the most historic buildings in the East End, was partially destroyed by fire. The church, which has, however, been much altered, dates from the year 1486, and it is said (though the statement admits of some doubt) that the site was occupied by a church from early Saxon times. The Clerk of the Council has, by our instructions, prepared a report as to the extent of the damage, and we think the following particulars will be of interest to the Council. The principal damage done to the main body of the church consists in the destruction of the old vestry, the roof of the chancel, and the greater portion of the roof of the centre of the nave. The side aisles are very little injured, the south aisle being almost untouched. The interesting old monuments and wall-plates, including the monument to Sir Henry Colet, Lord Mayor in 1495, and father of Dean Colet, the founder of St. Paul's School, and the well-known 'Fish and Ring' monument to Dame Rebecca Berry, have almost entirely escaped the effects of the fire, and the seats and the stone arches are undamaged. Even more important is the fact that the parish registers, which, with the fine seventeenth-century communion plate, were in an iron cupboard in the destroyed vestry, were saved. These parish registers date back to 1568, and are amongst the most interesting parochial records in London. Unfortunately, the organ, the front of which was one of the finest examples of Grinling Gibbons' carvings, was totally destroyed. A fine stained glass window and a modern vestry were also destroyed, but neither of these were of any particular historical interest. We understand that in restoring the church every effort will be made to preserve as much as possible of the old building, and to restore the destroyed portions in their original form; and we have asked to be informed of the plans of restoration when a definite decision has been arrived at with reference thereto."

*Housing.*—The Housing of the Working Classes Committee reported as follows :—

"Mulready-buildings and the second block of the dwellings known as Reynolds-buildings, Millbank Estate, are now ready for occupation. It will be remembered that the completion of Reynolds-buildings has been delayed by the making good of the damage done by fire to the upper portion of the buildings. Accommodation is provided in this block of Reynolds-buildings for 190 persons in 19 tenements of two rooms and 19 tenements of 3 rooms, and, in addition, an estate office and a 4-room tenement are provided for the use of the superintendent of the estate. Mulready-buildings provide accommodation for 230 persons in 20 tenements of 2 rooms and 25 tenements of 3 rooms."

The Council, having transacted other business, adjourned.

## THE TRIBUNAL OF APPEAL.

THE Tribunal of Appeal under the London Building Act, 1894, sat at the Surveyors' Institution, Great George-street, S.W., on the 29th ult., to hear an appeal by Mr. A. G. H. Brown, under Section 13 of the Act, against the determination of the London County Council, dated October 24, refusing their consent to a deviation from the plans approved by the Council on April 30 for the erection of a block of residential flats on the site of 400 and 402, Coldharbour-lane, Brixton, so far as it related to an increase in the height of the proposed building as shown on the plans dated September 7 and 12, 1901, submitted with the application of Mr. F. A. Cowell.

The members of the Tribunal present were Messrs. J. W. Penfold (Chairman), A. H. Hudson, and E. Gruning.

Mr. McIntyre, barrister, represented the appellant, and Mr. Andrews, from the Solicitors' Department of the London County Council, appeared for the respondents.

Before the facts of the case were entered into, Mr. Andrews offered the preliminary objection that the appellant had not given the section and sub-section of the Act under which the appeal was brought. This, he contended, was necessary under the rules governing the procedure of the Tribunal, rules which had been approved by the Lord Chancellor.

After some argument, the Chairman said the Tribunal upheld the objection that the notice of appeal was, in consequence of the omission, bad. Inasmuch as they had no authority to allow a departure from the rules, their jurisdiction was ousted. They allowed the respondents ten guineas costs.

## APPLICATIONS UNDER THE 1894 LONDON BUILDING ACT.

THE London County Council on Tuesday dealt with the following applications under the London Building Act, 1894. Unless otherwise stated, consent was given on conditions. The names of applicants are given between parentheses :—

*Lines of Frontage and Projections.*

*Westminster.*—A hood over the entrance to No. 34, Queen Anne's-gate, Westminster (Mr. A. M. Poynter for Mr. C. S. Goldmann).—Consent.

*Greenwich.*—That the application of Mr. J. Wills for an extension of the period within which the rebuilding of the Baptist Church, Shooter's Hill-road, Blackheath, was required to be commenced, be granted.—Agreed.

*Hackney, North.*—That the application of Mr. G. H. Paine on behalf of Mr. C. C. Paine, for an extension of the period within which the erection of eight houses, with bay windows, on the east side of Upper Clapton-road, Hackney, between No. 174 and Moresby-road, was required to be commenced, be granted.—Agreed.

*Hammersmith.*—The retention of a three-story addition at the rear of No. 138, Goldhawke-road, Shepherd's Bush, abutting upon St. Stephen's-avenue (Mr. A. W. Osborn).—Consent.

*Hampstead.*—Wood and tile pent roofs over the entrances to five houses in course of erection on the north-east side of Fordwych-road, Hampstead (Mr. J. Phœnix for Messrs. Bridge & Neal).—Consent.

*Lewisham.*—The retention of a dwelling-house on the northern side of Farley-road, Catford, eastward of Laleham-road (Mr. C. Farley).—Consent.

*Lewisham.*—Wood and slate pent roofs over the entrances to two houses on the north side of Tredown-road and two houses between Nos. 28 and 34, Burghill-road, Sydenham (Mr. G. Tolley for Mr. W. Cooper).—Consent.

*Lewisham.*—Wood and slate pent roofs over the entrance doorways of four houses on the south-east side of Brockley-road, Lewisham, northward of Stillness-road (Messrs. Thomas & Son).—Consent.

*Marylebone, East.*—A stone balcony over the arched hood of the entrance doorway to No. 101, Harley-street, St. Marylebone (Mr. W. H. White for Mr. A. F. Voelcker).—Consent.

*St. George, Hanover-square.*—A warehouse building on the site of Nos. 199 to 203, Buckingham Palace-road, Pimlico (Mr. W. A. Large for Messrs. Humphreys, Limited).—Consent.

*St. Pancras, South.*—The retention of a wooden facia and cornice fixed round the base of a projecting oriel window on the north-western angle of No. 28, Rathbone-place, Oxford-street (Mr. P. Dollar for Mr. J. Brehm.)—Consent.

*Strand.*—A stone canopy and balcony over the entrance to the Town Hall, Charing Cross-road (Mr. J. Murray for the Council of the City of Westminster.)—Consent.

*Wandsworth.*—Two three-story houses, with shops on the ground floor, on the site of No. 279, Balham High-road (Mr. H. E. Rossiter for Mr. H. W. Nightingale).—Consent.

*Battersea.*—A parcels office, milk depôt, and covered cab yard at Clapham Junction Railway Station on the northern side of St. John's Hill, Battersea (Mr. S. Bircham for the London and South-Western Railway Co.).—Refused.

*Clapham.*—The retention of a brick wall and the erection of an addition at the rear of No. 89, New-road, Wandsworth-road, Battersea, abutting upon Mundella-road (Mr. H. Griffin for Mr. J. H. Burr).—Refused.

*Hackney, North.*—A block of residential flats with on -story shops in front, on the north-east side of Manor-road, Stoke Newington (Messrs. Gordon & Gunton for Mr. F. Matthews).—Refused.

*Kensington, South.*—A one-story addition at the rear of No. 67, Marloes-road, Kensington, to abut upon Scarsdale-villas (Messrs. J. Surrey & Son for Mrs. M. Surrey).—Refused.

*Norwood.*†—A porch at the entrance to a bank building on the south-east side of Ulleswater-street, Norwood-road, Norwood (Messrs. W. G. Bartleet & Son for the London and County Banking Co., Ltd.).—Refused.

*Width of Way.*

*Chelsea.*—A brick boundary wall in front of stable buildings on the site of Nos. 57 and 59, Church-street, Chelsea (Mr. R. T. Kingham for the London General Omnibus Co., Ltd.).—Consent.

*Hampstead.*—Three four-story bay windows to a block of residential flats on the site of Nos. 6 and 7, The Mount, Hampstead (Mr. C. W. Matthews).—Consent.

*St. Pancras, East.*—A three-story dwelling-house at the rear of Nos. 18 and 20, Jeffreys-street, Kentish Town-road (Mr. T. B. Westacott).—Consent.

*Greenwich.*†—A one-story addition at the Thames Engineering Works, Greenwich, with the external

* See our issue for November 23.—ED.

walls of such addition at less than the prescribed distance from the centre of John Penn-street (Mr. G. S. Young for the Thames Ironworks, Shipbuilding, and Engineering Co., Ltd.).—Refused.

*Westminster.*—A mansard roof, to form an additional story to Nos. 32 and 34, Great Peter-street, Westminster, at the corner of St. Ann's-lane (Messrs. Wake & Co. for Messrs. Wilson & Pilcher, Ltd.).—Refused.

*Space at Rear.*

*Holborn.*—A modification of the provisions of Section 41 of the Act with regard to open spaces about buildings and extension above the diagonal line, so far as relates to the proposed erection of an hotel building on a site on the north side of Great Russell-street, at the corner of Bloomsbury-street, with an irregular open space at the rear (Mr. G. Waymouth for Messrs. Howard & Co.).—Consent.

*Lines of Frontage and Width of Way.*

*Hackney, Central.*—A one-story addition to a building in the garden of No. 97, Lansdowne-road, Hackney (Mr. A. Cook).—Refused.

*Strand.*—A building on the site of Nos. 19 and 20, Bateman-street, Soho (Mr. H. A. Woodington for Mr. B. Lynch).—Refused.

*Width of Way and Space at Rear.*

*Hammersmith.*—Deviation from the plans approved for the erection of two blocks of flats on the site of Nos. 54, 54A, 56, 58, and 60, Queen-street, Hammersmith, so far as relates to an alteration to the front enclosure of the third floor of such flats (Mr. J. Butters for Mr. C. W. Carpenter).—Consent.

*Projection and Construction.*

*Holborn.* — A gangway across Onslow-street, Holborn, to connect No. 87, Farringdon-road with a building on the west side of Onslow-street (Messrs. Lander, Bedells, & Crompton for Messrs. Falk, Stadelmann, & Co.).—Consent.

*Formation of Streets.*

*Hackney, North.*—That an order be issued to Messrs. Lamb, Son, & Prance, sanctioning the formation or laying out of a new street for carriage traffic to lead from Mount Pleasant-lane to Comberton-road, Hackney, and in connexion therewith the widening of Mount Pleasant-lane and Comberton-road (Mr. W. W. Hayworth). That the name Alcester-crescent be approved for the new street.—Agreed.

*Hampstead.*—That an order be issued to Messrs. Tuckett & Son sanctioning the formation or laying out of new streets for carriage traffic on the Powell-Cotton estate, on the north side of Westbere-road and north-west side of Minster-road, Hampstead (Mr. P. H G. Powell-Cotton).—Agreed.

*Strand.*—That an order be issued to Mr. A. Young sanctioning the formation or laying out of a new street for carriage traffic to lead from Kemble-street to Drury-lane, Strand (for the Improvements Committee of the Council).—Agreed.

*Means of Escape from Top of High Buildings.*

*Strand.*—Means of escape in case of fire proposed to be provided, in pursuance of Section 63 of the Act, on the sixth floor of a building erected on the site of No. 19, Charing Cross-road and No. 28, Leicester-square, and known as Gloucester House (Mr. J. P. Crosby).—Consent.

*Kensington, South.*—Means of escape in case of fire proposed to be provided, in pursuance of Section 63 of the Act, on the eighth and ninth stories of a block of residential flats known as Block No. 1, Iverna-court, and situate on the west side of Wright's-lane and south side of Iverna-gardens, Kensington (Mr. R. Clarke for Messrs. J. Howard & Co.).—Refused.

*Cubical Extent.*

*Hackney, North.*—A factory building, on the west side of Tyssen-street, Dalston-lane, Hackney, with one division, to exceed in extent 250,000 but not 450,000 cubic feet, and to be used only for the purposes of a cabinet and joinery works (Mr. E. O. Sachs for the Shannon, Ltd.).—Refused.

*The recommendations marked † are contrary to the views of the Local Authorities.*

## BOOKS RECEIVED.

BOOK OF TABLES OF CUBIC CONTENTS OF DEALS, BATTENS, &C. By Thomas Valder. (Longmans, Green, & Co.)

FREEHAND DRAWING OF FOLIAGE, &C. By John Carroll. (Burns & Oates.)

ALL SAINTS' MISSION, PENTONVILLE.—Lady Jeune, on the 30th ult., laid the foundation-stone of the new Mission Church of All Saints, Pentonville, N. The dimensions of the church are 38 ft. by 45 ft., and seating accommodation will be provided for 250 persons. Below the church is a gymnasium, with the same floor space and 15 ft. high. The building has been designed by Mr. R. A. Briggs, and is being constructed by Messrs. Campbell, Smith, & Sons in red brick with Bath stone dressings. Its cost will be 4,500*l.*

# Correspondence.

*To the Editor of* THE BUILDER.

## THE DIRECT EMPLOYMENT OF LABOUR.

SIR,—In his concluding paragraph your correspondent of last week, "One from the Bench," seizes an idea that has been a good deal discussed of late, and of which much more may be heard. His views on the execution of works without the intervention of a contractor are very natural from the workman's point of view and deserve attention.

By the force of circumstances the contractor is fast becoming less of a manufacturer of the different items of a building, and more of a purchaser and constructor. In like manner, the workman in the building trades becomes less of an artificer and more exclusively a fixer. In the five and twenty pages that, like husk and shell, enclose the kernel of your journal, in volumes of advertisements inches thick, by pestering travellers and pursuing catalogues, one is shown how to acquire ready-made the different items of a building so as to dispense more and more easily with the regular mechanic. There are good old trades the necessity for which has practically gone, not only as regards the operation of building, but even in the workshop, and the process does not stop. The contractor may, if he likes, have his yard and workshops, his dead stock and live stock, his machinery and the clerical staff of a large manufacturing establishment; and, as a rule, he probably will keep up this system more or less. But it is no more necessary than it is for a joiner to have the old-fashioned box of tools. And if this is unnecessary for the contractor, it is unnecessary for the private building-owner.

Thus the temptation to dispense with the contractor and to carry out the work by direct labour under a foreman or clerk of works, directed by the architect or engineer, increases, and the sources of economy seem many. There is the saving of the contractor's profit, of his heavy payments for interest, and of the sums which he must put down on account of the stringency of the conditions of contract. The owner with money in hand can buy as well as—indeed, I have been told, better—than the contractor who takes even the shortest credit; he can insure against every insurable risk, and he may not unreasonably hope to come out of the business better than he would do if it had been done by contract.

But people do not, as a rule, enter into contracts to save money, but to avoid risk, and the risks against which it is impossible to insure are many and heavy. If drawings, specification, quantities, and contract are all right, as they should be, the owner knows at the outset what the building will cost him; but when he is his own builder he can be sure of nothing until he has got in the last bill, nor even then, for he will still have to make good all defects. A rich man or company or corporation may be advised to take the risks of such business, but the ordinary man, who has probably scraped together with difficulty the money first supposed to be sufficient for his building, and may count on borrowing enough to make up for the increase in the estimate which usually declares itself, cannot prudently be advised to go into building on his own account, even though he may go to specialists for nearly everything that he requires. There is still a great and uncertain item for labour, the risk of strikes, the risk of miscalculations, and of dishonesty even, though your correspondent seems to think that honesty and reliability can be ensured with a stroke of the pen.

Upon the whole, I think the contractor, whether big or little, will be with us for some time longer, and it would be well for all parties concerned with building to make the best of the system by fair dealing and reasonable demands.

THOS. BLASHILL.

## BRICKLAYERS NOW AND THEN.

SIR,—At regular intervals, and in the entire absence of the all-absorbing sea-serpent story, the journalist of the day must dish up something that has a promise to "catch on for a while" at any rate. And, apparently, a shot at the British mechanic through the bricklayer, in this instance, gives the essentials of such a promise. It has served the purpose before, and very likely will again. These fables die hard. The sting of these fables lies in the covert sneer, that is scarcely hidden below the surface, and which, in a few words, implies that a bricklayer now dare not lay as many bricks as he could if allowed, and that because his mates will not allow him.

With your permission, Sir, I shall try to give an impartial answer. I have been in the building trade thirty-seven years, as an apprentice, carpenter, shop foreman of joiners, general foreman, and clerk of works, and here is my answer in brief. Bricklayers do not lay so many bricks now as formerly, and that mainly because they do *lay* them now. On any decent job to-day the sectional bond as well as the face work has to be properly carried out, all the joints have to be properly flushed up; in short, a good proportion of conscience is introduced into the wall along with the bricks and mortar. I have no hesitation in saying that all this was extremely rare so late as fifteen and twenty years ago. Then very seldom was sectional bond thought of, and the work was not as a rule flushed up or grouted. Now this is the rule. Again, Sir, just look at the class of work that is demanded of bricklayers now, compared with what was demanded then. Architects now are not satisfied with the plain expressionless monotone surfaces, unrelieved by any projecting feature, horizontal or perpendicular, that did duty then. If an occasional look-out was kept for a rectangular hole for a door and another for a window—after that it was plain sailing for muscle, because brain had done its duty. Under those conditions a bricklayer could, and did, lay twice—yes, often three times—as many as he can lay now. And why? One instance may suffice. I am at present in charge of a job where no less than eight different kinds of bricks are used, with Bath stone dressings at frequent intervals. The surface of the walls is often broken by projecting bands and by recesses and piers, thus involving a great deal of plumb rule work. Under the above circumstances any tyro can see that a bricklayer now cannot lay as many bricks as he could then. Then, perhaps, he worked hard; on the above class of work now he can only be busy. He has to use his brains more now, and his great want is—more brains still.

In answer to your P.S. to the letter of an old bench hand, I for one have never known of a case in which an organised attempt was made to restrict the output of work by a set of bricklayers against any individual or set of individual bricklayers. So far as my observations go, I have never suspected an attempt at coercion in the above direction. Bricklayers are human. There are worthless fellows among them, but the latter do not rule the mass; they only sneak their way about until they are found out.

MONDAMIN.

## "THE CA' CANNY (GO-EASY) QUESTION."

SIR,—I have read nearly all the letters and articles that have appeared in the daily Press and in the *Builder* about the alleged slowness or laziness of bricklayers, and it surprises me to find that certain persons are beginning to discover a few facts that other men have known all their lives.

My experience has been acquired during nearly thirty years' occupation as foreman and as clerk of the works in eighteen different counties of England and Wales, and the result of notes made and observations recorded is that brickwork costs for labour almost precisely the same number of hours in all localities. During the past six or seven years I have had charge of some rather large jobs that have swallowed up from three to four millions of bricks per annum, taking one year with another, and these jobs were located so as to form roughly an equilateral triangle with sides about ninety miles long. The builders and the architects were in each case different, and the men and the foremen were in each case also different. The work, however, was somewhat similar. The walls were thick, and straight and long; the bulk were 14 in., faced outside with red bricks, and there were a rather large number of glazed bricks used internally as facings. The proportions were, roughly stated, as follows:—57½ per cent. stocks, 30 per cent. red facings, 12½ per cent. glazed facings, and none of the work was pointed as it was built, but all joints were well raked out and swept off clean.

The outcome of my observations and notes was that, taking each of the before-mentioned jobs and dividing the number of bricks of all kinds used per the merchants' invoices by the number of trowels, gave an average of 400 bricks per day per bricklayer. There was not 5 per cent. difference between either of the jobs in the quantity of bricks laid per day.

In my opinion, based on many years' close observation and many confidential chats with bricklayers of all sorts, the right way to estimate the cost of the labour to a rod of reduced brickwork is to allow eleven full days' work (two working weeks) for one bricklayer at local rate of wages as the net prime cost of brickwork in public buildings such as hospitals and asylums. That rate of price would include internal and external work, facings of ordinary and glazed bricks, but not the pointing. Of course, if the estimator puts down a fancy price for laying facing bricks, then my calculation of eleven full days for a bricklayer must be reduced.

As regards the evil influence of the trade-unions, I must candidly say I think that is all "moonshine" I have talked to lots of bricklayers, both society and non-society, and I have never heard a word to lead me to suppose anything of the kind exists.

In conclusion, I would like to say that to bring out an average of 400 bricks laid per day right through a big job, the heavy footings must be laid with great rapidity and each man must then account for over a thousand per day. In bricklaying, as in many other things, circumstances alter cases.

PROVINCIAL.

# The Student's Column.

## GAS AND GAS-FITTINGS.

### 22.—THE PROPERTIES AND GENERATION OF ACETYLENE.

THE PROPERTIES OF ACETYLENE.—Pure acetylene is a colourless gas possessing a sweet ethereal odour. Commercial acetylene possesses a stronger and more offensive odour owing to the presence of gaseous impurities. The chemical formula for acetylene is $C_2 H_2$, which indicates that it consists of 92·3 per cent. by weight of carbon combined with 7·7 per cent. of hydrogen. It is soluble in water to a considerable extent, eleven volumes of gas being dissolved by ten volumes of water at ordinary atmospheric temperature and pressure. The gas is much less soluble in water which has been saturated with common salt, but strongly saline solutions are found to exert a corroding influence on the metal vessels commonly used for the generation or storage of acetylene. Acetylene is much heavier than coal gas, but somewhat lighter than air. The approximate specific gravities of acetylene and other gases extensively used for lighting or heating purposes are shown in the following table :—

| | |
|---|---|
| Hydrogen | 0·07 |
| Coal gas | 0·42 |
| Plain water gas | 0·54 |
| Natural gas, U.S.A. | 0·56 |
| Carburetted water gas (26 c.p.) | 0·62 |
| Mond gas (Power gas) | 0·79 |
| Acetylene | 0·91 |
| Air | 1·00 |

Acetylene gas can be converted into a colourless, transparent liquid under normal atmospheric pressure by cooling it to −82 deg. C., or into a solid white crystalline mass by cooling it to −85 deg. C. The gas may be liquefied at a higher temperature if also subjected to high pressure. Acetylene is feebly poisonous, but it is less poisonous than ordinary coal gas.

*Acetylene an Endothermic Compound.*—Some compounds absorb heat during their formation, and evolve that heat when they subsequently undergo decomposition. Such compounds are termed endothermic, and acetylene belongs to this class. Other compounds evolve heat when they are formed and absorb heat when they are decomposed, and are termed exothermic. The endothermic character of acetylene is a factor which must be taken into consideration when considering its explosive value for engine driving, or its flame temperature, since to the heat of combustion of its component hydrogen and carbon is added the heat absorbed during its formation.

*Detonation of Acetylene.*—Acetylene without admixture with air can be decomposed with explosive violence by firing in it a detonator such as mercuric fulminate, but unless the acetylene is under higher pressure than ordinary atmospheric pressure the explosion is extremely local, and is comparatively harmless, as the greater portion of the acetylene remains unaffected by the detonation. The products of the decomposition by detonation are amorphous carbon and gaseous hydrogen. This amorphous carbon or "acetylene black" is now manufactured on a large scale by compressing the acetylene under a pressure of two atmospheres and exploding it by means of an electric wire or spark, air being carefully excluded. The carbon thus produced is said to form a remarkably high-grade pigment.

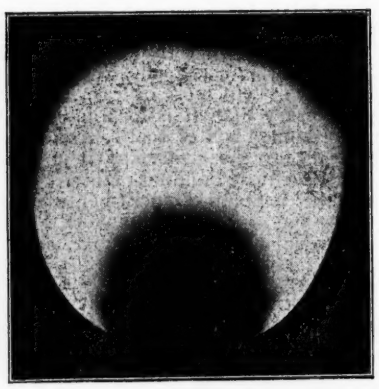
*Explosibility of Acetylene Mixed with Air.*—Any mixture of acetylene and air containing from 3 to 82 per cent. of acetylene will explode when ignited. The most violent explosion is produced when the proportion of acetylene amounts to from 8 to 10 per cent. by volume of the mixture. In the presence of air acetylene can be ignited at a temperature of 896 deg. Fahr., which is considerably lower than the igniting point of coal-gas.

*Illuminating Power of Acetylene.*—Under the most favourable conditions acetylene will give a flame of 48 c.-p. when burning at the rate of 1 cubic foot per hour, but this result is seldom or never attained in practice. A good commercial burner consuming commercial acetylene at a rate of 1 cubic foot per hour will give a light of about 32 c.-p. The relative illuminating values of acetylene and coal-gas per cubic foot of gas consumed per hour under good working conditions may be stated as follows :—

| | Per cubic foot of gas per hour. |
|---|---|
| Acetylene | 32 candles. |
| Coal-gas, flat flames | 2½ „ |
| „ incandescent mantle | 20 „ |

Acetylene is so rich in carbon that no burner has yet been devised which will consume it at a rate of 5 cubic feet per hour without producing either a smoking flame or a flame of comparatively feeble luminosity. In practice it is found necessary to employ burners incapable of passing more than 1 cubic foot of gas under ordinary pressures, and a large number of burners which consume only ½ or ¾ of a cubic foot per hour are in use.

The relative sizes of a coal-gas flame and an acetylene flame of equal illuminating power are shown in fig. 55.



(a)

(b)

*Fig. 55.—a = 16-Candle Coal-Gas Flame, consuming 6½ c. ft. of gas per hour. b = 16-Candle Acetylene Flame, consuming ½ c. ft. of gas per hour.*

The photograph shows a 16-candle coal-gas flame (a) obtained from a No. 6 flat-flame burner when consuming 6½ cubic ft. of gas per hour under a pressure of 1 in., while the acetylene flame (b), which is photographed on exactly the same scale, was obtained from a Naphey burner passing ½ cubic ft. of acetylene per hour under a pressure of 3 in. The best results with these burners were obtained with coal-gas under a pressure of 1 in., and with acetylene under a pressure of 3 in., the difference in pressure being necessitated by the difference in the specific gravities and carbon contents of the two varieties of gas.

*Heating Power of Acetylene.*—The heating value of acetylene is much greater than that of any other gas commonly used for domestic or industrial purposes. The following table shows the relative heating values per cubic foot of each of the principal commercial varieties of gas :—

| | Calories. |
|---|---|
| Acetylene | 379 |
| Natural Gas, U.S.A. | 225 |
| Coal-gas | 156 |
| Hydrogen | 82 |
| Water-gas (plain) | 76 |
| Mond gas (power gas) | 39 |

Acetylene is therefore far superior, volume for volume, to coal-gas for engine driving or heating purposes, but its cost is in most cases prohibitive.

When used for illumination, however, acetylene does not evolve more heat than coal-gas consumed in flat flame burners because a much smaller volume of gas is required to produce a light of given intensity. From the following table given by Lewes it will be seen that the heat emitted by the acetylene flame closely approximates to that emitted by an incandescent coal-gas light of the same intensity, but is much less than that emitted by luminous coal-gas flames.

*Ratio of Heat Emitted to Yield a Light of 64 candles.*

| | |
|---|---|
| Incandescent coal-gas light | 100 |
| Acetylene | 115 |
| London Argands | 571 |
| Flat flame burners | 914 |

*Combustion Products.*—When pure acetylene is consumed in suitable burners the only products of combustion are carbon dioxide and water vapour, the same compounds as those which form the main proportion of the combustion products of coal-gas. Professor Lewes has calculated the extent to which the atmosphere of a room is prejudicially affected by acetylene, coal-gas, and oil lamps respectively, and has drawn up the results in the following table :—

*Comparative Hygienic Effect of Illuminants per Unit of Light.*

| — | Carbonic Acid Evolved. | Moisture Evolved. | Oxygen Removed from Air. | Heat Produced. |
|---|---|---|---|---|
| Acetylene | 100 | 100 | 100 | 100 |
| Coal-gas, flat flame | 480 | 1,470 | 520 | 795 |
| Coal-gas, mantle | 45 | 230 | 62 | 87 |
| Petroleum, large lamp | 995 | 700 | 498 | 246 |

*Actinic Value of Acetylene Flames.*—The light emitted by acetylene flames more nearly approaches that of sunlight in the relative proportions of rays of different wave length than any other light produced by artificial means, and is even richer than sunlight in those blue and violet rays of the spectrum which are most active in effecting chemical change in those bodies which are sensitive to light. Acetylene is therefore exceedingly useful for photographic work, and Walmsley finds its relative value as compared with other forms of light for acting upon sensitive photographic plates to be as follows :—

| | Seconds. |
|---|---|
| Direct sunlight | 1 |
| Acetylene, 1 c. ft. burner | 3 |
| Diffused daylight, reflected from mirror | 12 |
| Incandescent mantle | 24 |
| Coal gas / Oil gas / Oil lamp | 240 |

*The Generation of Acetylene.*—Several methods of producing acetylene are known, but the only process of commercial importance is that which consists in effecting contact between calcium carbide and water. The following chemical equation represents the reaction which takes place :—

$$\underset{\text{Calcium carbide}}{CaC_2} + \underset{\text{water}}{2H_2O} = \underset{\text{yield acetylene}}{C_2H_2} + \underset{\text{slaked lime.}}{Ca(OH)_2}$$

and signifies that sixty-four parts by weight of calcium carbide will react with thirty-six parts of water to form twenty-six parts of acetylene and seventy-four parts of slaked lime. Theoretically, therefore, 1 lb. of carbide requires rather less than half a pint of water for complete decomposition, but in practice at least one pint of water should be allowed for every lb. of carbide, as a considerable quantity of water is vapourised as steam and carried forward with the gas.

*Cool Generation Necessary.*—The chemical reaction which occurs when calcium carbide comes in contact with water is accompanied by the evolution of heat, and it is a matter of great importance that the heat should not be allowed to accumulate in the decomposing carbide, but should be conducted from its neighbourhood as speedily as possible. When a small fragment of carbide is dropped into a vessel filled with water, the carbide rapidly decomposes, but the heat evolved is so quickly distributed through the large bulk of water that the temperature of the water is not perceptibly increased. If, however, water is allowed to fall in a fine continuous spray over a

large mass of carbide, the decomposing carbide becomes strongly heated, polymerisation of the acetylene occurs, and benzene and tarry compounds are produced.

The slaked lime which is obtained as a residue when all the carbide has been decomposed should be white or grey. If it is of a yellow colour, or contains soot or tarry matter, it is evident that the carbide has been decomposed under unfavourable conditions.

In some generators carbide can always be decomposed without materially increasing the temperature of the decomposing mass, while in others both the carbide and the generator become strongly heated. Sometimes a water-jacket is placed around the generator to keep the generator cool, but this may in many cases be regarded as an attempt to remedy an unnecessary defect in the method adopted for decomposing the carbide.

Cool generation is the object desired, and if this be attained it is not a matter of great importance whether the acetylene be generated (1) by dropping carbide into water, (2) by allowing water to rise to carbide, or (3) allowing water to fall upon caarbide. When carbide is dropped into a large volume of water under suitable conditions, cool generation is effected provided that the live carbide is not allowed to become buried in a bed of lime sludge at the bottom of the generator, but a considerable quantity of gas is lost owing to the solubility of acetylene in water. When either the second or third method of decomposition is adopted, it is necessary to be able to control the rate of decomposition to ensure that overheating shall not occur. As a general rule, generators in which water "drips" or is sprayed over carbide should be avoided because it is in such generators that overheating most commonly occurs.

Careful and intelligent operators can decompose carbide by any of the three processes with satisfactory results, but ignorant or careless operators may obtain very unsatisfactory results with the same methods of decomposition and the same apparatus.

*The Cost of Acetylene.*—The cost of acetylene as compared with coal-gas depends upon local conditions, but for domestic lighting the writer would not recommend the substitution of an acetylene installation for coal gas supplied from a local gasworks when coal-gas can be obtained for 5s. per 1,000 cubic feet or less although well aware that acetylene is commonly regarded as equivalent to coal-gas at about 3s. to 3s. 6d. per 1,000 cubic feet. In this country the field for acetylene as an illuminant is limited under existing prices to the lighting of country houses, churches, or villages in districts not provided with a satisfactory public gas supply, and to portable appliances for various purposes.

## *GENERAL BUILDING NEWS.*

METHODIST CHURCH, YORK.—The stone-laying ceremony of a Primitive Methodist Church in Monkgate, York, took place recently. The church will occupy a site adjoining the York Home for Nurses, Monkgate. There will be seatings for 400 on the ground floor and 375 in the gallery, making a total of 775. The church will be entered by two doorways opening into a vestibule, and the gallery will be approached by two flights of stairs in the angle towers, one of which terminates in a spire rising to a height of 75 ft. from the ground. The gallery will have circular ends. The Sunday-school premises will be in the rear, and on the ground floor will contain a lecture-room and infants'-room, each accommodating 100 persons. The assembly-hall is on the first floor and will accommodate 400 scholars There will be ten classrooms of different sizes and also minister's and choir's vestries. Ample kitchen and lavatory provision is arranged. The front will be faced with Ruabon bricks, the dressings being of Morley stone. The total cost, exclusive of the land, will be about 6,000*l.* Mr. George Mansfield, of York, is the builder, and Mr. F. W. Dixon, of Manchester, is architect.

RESTORATION OF EDLINGHAM CHURCH, NORTHUMBERLAND.—The restoration of this interesting specimen of Early Norman architecture having been completed, the opening service was held recently. The alterations and additions include new roof, an improved system of drainage, a new pulpit, a new lectern, new doors, and new windows, although it should be mentioned that on account of the great historic interest attached to the building, and because every stone is beautifully age-stained as well, it was decided to allow each window opening to remain unaltered, so as to preserve as far as possible the historic memories associated with the church. The floor which was raised 120 years ago above the bases of the fine Norman pillars has been lowered to its original level. The nave has been roofed and ceiled with pine, as enough was not forthcoming, unfortunately, to admit of oak being repeated. The new seating accommodation, however, is of oak. The cost of the restoration is estimated at over 1,000*l.* Mr. A. B. Plummer, diocesan surveyor, Newcastle, was the architect for the nave and tower; Messrs. Gradon & Son, Durham, the contractors; Mr. Caröe, London, the architect for the chancel, representing the Ecclesiastical Commissioners, who are responsible for that part of the scheme, and who have executed that portion at their own expense. Mr. Percy Appleby, Newcastle, was responsible for much of the carving in connexion with the scheme. —*Alnwick Gazette.*

WESLEYAN CHURCH, WEST BRIDGFORD, NOTTINGHAM.—A new Wesleyan church was opened at West Bridgford on the 21st ult. The building is situate at the junction of Lady Bay-road with Trent Boulevard. The building, which is intended for a Sunday school until the church proper can be erected, is 58 ft. in length by 31 ft. in width, and has seating accommodation for 300 persons. At the rear is a large room measuring 30 ft. by 17 ft., and two smaller rooms, 17 ft. by 17 ft. and 17 ft. by 22 ft. respectively, to serve as vestries and classrooms. On the south side are the heating-chamber, kitchen, &c. The front of the church, facing the Boulevard, is faced with Coxbench stone; the sides are of red brick. The porch is 19 ft. high by 8 ft. The interior fittings are of Columbian pine, stained and varnished. The heating has been carried out on the low-pressure hot-water system, and the lighting is by gasoliers. The contract for building the church, which was placed in the hands of Mr. T. Barlow, has amounted to over 2,000*l.* Mr. A. E. Lambert was the architect.

CHURCH, PENLEY, ELLESMERE.—The Bishop of Lichfield recently dedicated the new Church of St. Mary Magdalene at Penley. The new church has been designed by Mr. Hodgson Fowler, of Durham, at a cost of 2,500*l.* It consists of nave and chancel of local red stone, with a roof of red Ruabon tiles; the chancel fittings are of oak.

MEMORIAL CHAPEL, LEICESTER.—The new Robert Hall Memorial Chapel, Narborough-road, Leicester, has just been opened. The new building stands at the junction of the Narborough and Upperton roads. The corner of the two roads is emphasised by a tower which rises from the ground some 70 ft., and is surmounted by a lead-covered octagonal spire. The main entrances to the chapel and school are in the Narborough-road (north-east end of the buildings); the choir, deacons' and minister's entrance being in the Upperton-road. In plan the building is almost a parallelogram, with shallow transepts on either side. The rostrums are placed at the north-west end, with the baptistry underneath the upper one, which is sunk below the chapel floor. It is entered from either side of the chapel, and exit is given into the adjoining corridor, which gives access to the various vestries. The floor of the chapel is formed of pitch-pine wood blocks, and has a slope towards the rostrums. The seating is in pitch-pine, and will accommodate 850 persons. The floor of the lower rostrum is about 2 ft. 3 in. above the chapel floor, and is surrounded with a mahogany hand-rail, supported on wrought-iron brackets. The upper rostrum, which overhangs the baptistry, is approached from the lower one, and is executed in pitch-pine, with selected pitch-pine panels. At the rear of the rostrums an elliptical chancel arch rises and separates the choir stalls from the chapel. All the electric light fittings are of brass. The roof is one span of 48 ft., and is executed in Oregon pine. The chapel and the whole of the building are heated on the hot-water low-pressure system. The windows and a large number of the upper panels of the doors are filled with stained glass; and all the corridor and lobby floors are finished with Venetian marble mosaic. A ladies' vestry is provided at the north-west end; also minister's and deacons' vestries. The school, which adjoins, contains a lecture hall. At each end of the hall galleries are constructed to be used for several classes. The roof is an open timber one in Oregon pine. A large infants' classroom is placed near the school entrance (south-east end). The men's classroom, which is approached by a separate entrance, is placed at the rear on the first floor, and has an area of 500 sq. ft. The building is carried out in the Early Tudor style. The iron casements were supplied by Messrs. Hope & Sons, Birmingham; the electric light fittings by the Birmingham Guild of Handicraft; the heating work was carried out by Messrs. Ashwell & Nesbit, Leicester; the stained glass by Mr. Walter J. Pearce, Manchester; the mosaic work by Messrs. Diespeker & Co., London; and the folding partitions by Messrs. Peace & Norquoy, Manchester. Mr. Walter Brand, of Leicester, is the architect, and Messrs. J. E. Johnson & Sons the builders.

NEW PHYSICAL LABORATORY, ROYAL BELFAST ACADEMICAL INSTITUTION.—A new physical laboratory has just been completed at the Royal Belfast Academical Institution. Among the principal changes is the conversion of the house which was, until June last, occupied by Dr. Sheldon into new classrooms. The new physical laboratory, which formerly was the ground floor of Dr. Sheldon's house, has been fitted up with all the most modern requirements and fittings. The floor is laid with oak wood blocks on a solid concrete foundation, the whole of which is insulated from the walls, as is also the special stone table. Adjoining the laboratory is the lecture-hall. A raised platform has been constructed in this room, so that every pupil has an unimpaired view of the demonstration-table. The contractors were Messrs. M'Laughlin & Harvey, and the architects Messrs. Blackwood & Jury.

ENLARGEMENT OF KENDRAY HOSPITAL, BARNSLEY.—Ald. Wilkinson, J.P., Chairman of the Sanitary Committee of Barnsley Town Council, laid the foundation-stone on the 28th ult. of an extension of the Kendray Hospital for infectious diseases. The enlargement will be erected at a cost of 7,541*l.*, from designs of Mr. J. H. Taylor, Borough Surveyor, and will contain twenty-eight beds, making the total accommodation of the hospital seventy beds.

MEMORIAL CROSS, CORNWOOD, DEVON.—A granite cross has been erected at Cornwood in memory of the late Lord Blackford. It is octagonal on plan, the base being formed of three steps, and the shaft tapering towards the cross. The total height is about 15 ft. Around the top step is an inscription in which Lord Blackford's services to his country for twenty-five years in the Colonial Office are referred to. The cross has been erected from the design of Messrs. Hine & Odgers, architects, Plymouth.

NEW PARISH HALL, PLYMOUTH.—The new parish hall of St. Simon's, Plymouth, has been opened by the Bishop of Exeter. Affording accommodation for about 500, it has a single-span roof with barrel ceiling, having moulded ribs, the monotonous Portland stucco of the neighbourhood being abandoned for brick and Bath stone, while the tints of the interior are governed by the green-stained woodwork. Mr. Ambrose Andrews, of Plymouth, is the builder, the architect being Mr. Harbottle Reed, of Exeter.

WORKHOUSE INFIRMARY, SUNDERLAND. — This building has been erected on ground adjacent to the local workhouse. It will, when finished, have cost about 40,000*l.*, the architects being Messrs. W. and T. R. Milburn. The new infirmary, which is designed to accommodate 200 patients, really consists of four departments—an administrative block, a pavilion for male inmates, a pavilion for females, and a maternity hospital. Externally the buildings are of brick, faced with Sherburn House bricks. The lighting is by electricity, derived from the Corporation power stations; and the heating is accomplished by means of the American Radiator Company's system. The buildings are fireproof; and fire-escape staircases have been constructed on the outside of all the premises. The contractors who have carried out the work are Messrs. D. & J. Ranken, of Sunderland. Mr. A. J. Wilkins has acted as clerk of the works.

EMPIRE THEATRE, HACKNEY.—A new theatre of varieties has been erected at Hackney, in Mare-street. The new theatre is fitted with the electric light, has a sliding roof 74 ft. above the floor, and is decorated in gold, buff, and white. The architect of the building is Mr. F. Matcham; the builders are Messrs. F. and H. F. Higgs; and the work of construction has been carried out under the superintendence of Mr. J. F. Revill.

BARRACKS, SALISBURY PLAIN.—Mr. H. Lovatt, of Wolverhampton and London, has obtained the contract for building the barracks decided some time ago to be placed on Salisbury Plain. The contract amounts to over 1,000,000*l.*, and the buildings are to contain quarters for eight battalions of infantry. A village is to be built by the contractor to accommodate the large number of men required for the works, and a railway has been constructed by the War Department from Ludgershall to Tidworth, which will be permanent.

## *FOREIGN.*

UNITED STATES.—The conditions regulating the competition for the soldiers' monument in Philadelphia seem to be satisfactory to American architects, except that the premiums are considered inadequate, only 3,000 dols. having been appropriated to pay five prizes in a competition for a structure to cost nearly 500,000 dols. The award is to be entrusted to a jury of architects and sculptors selected by the T-square Club and the Philadelphia Chapter of the Institute.——The Commission appointed by Congress to prepare a plan for the improvement of the city of Washington has arranged for the preparation of two models, one showing the city in its present condition, and the other representing the scheme which the Commission advises, both of which are to be placed in the Corcoran Art Gallery for public inspection and criticism. ——The death is announced of Mr. Adolph Robert Kraus, a well-known sculptor, of Boston. He was in receipt of a pension from the German Government for conspicuous merit as an artist. One of his principal works in America is the Massacre Monument on Boston Common.——A valuable deposit of marble has been discovered near Fort Bowie, Arizona. Its main ledge is about 1,000 ft. in width, and is about three miles in length. The stone is of various colours, but the striking features of the discovery are a vein of pure white marble about 75 ft. in width, and a long ledge of intensely black stone. Much of the white marble is stated to be as good in quality as the Italian, and superior to that so extensively raised in Vermont.

## *MISCELLANEOUS.*

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. W. B. G. Bennett, who has been for twenty-six years Borough Engineer of Southampton, is resigning his appointment in order to take up private practice, in partnership with his son, at Midland Bank Chambers, Southampton.——Mr. S Inskip Ladds, architect, of 7, Doughty-street, Mecklenburgh-square, has opened a branch office in Market-place, Huntingdon.

OPEN SPACES AND OLD HOUSES.—The Corporation of Burnley have agreed to purchase, for 17,500*l.* the Towneley Hall estate from Lady O'Hagan, widow of the first Lord O'Hagan, Lord Chancellor of Ireland. Lady O'Hagan inherited the property from her father, Colonel Towneley, in whose family it has continued by direct descent from a very remote period. Charles Towneley formed the collections of marbles, terra-cottas, bronzes, gems, &c., bought for the nation in 1808-10.—Mr. H. H. Raphael, who bought the Gidea Hall estate, Romford, four years ago, has offered to the Urban Council 14 acres of land, together with a lake extending over 6 acres, out of the park, for dedication to the public. The estate, which covers a total area of 500 acres, is one of those in Essex with which the Liberator Building Society was at one time connected, and was withdrawn from sale at auction on July 7, 1897, after a bid of 36,000*l.* The hall, standing near the road to Brentwood, was built in or about 1720 by Sir John Eyles, Bart., on the site of the manor-house which Sir Thomas Cooke, under a licence from the Crown to build a fortified residence, began in 1467, and his grandson, Sir Anthony Cooke, completed. Thomas was elected Lord Mayor in 1462. Anthony was tutor to Edward VI. and father of the learned daughters whose classical attainments Dr. Walter Haddon eulogised in an address to Cambridge University. A view of the house was inserted in Le Serre's account of Marie de Medici's progress from Harwich to London; she stayed there a day and a night, Charles I. escorting her from Chelmsford. The bridge of three elliptical arches at Gidea Hall is ascribed to James Wyatt.—Efforts are being made to secure 22 acres at Southfields, Fulham, to be vested in the Borough of Fulham; 15 acres of land at Deptford for 30,000*l.*; and 16 acres at Southfields, Wandsworth, for 24,000*l.*, and negotiations are in progress for the opening of the churchyards of St. Giles', Camberwell; All Saints' and St. Matthias, Poplar; and of Granville-square, Clerkenwell.—A Bill will be introduced next Session for vesting (1) Petersham Common, Petersham Meadows, and contiguous lands in the Richmond Corporation; (2) Ham Common in the Urban District Council of Ham; and (3) lands on the riverside between Nightingale-lane and Richmond Ferry and Half-mile Tree Point, near Kingston, in the Surrey County Council and other local Public Authorities, so as to secure the preservation of the view from Richmond Hill and the prevention of building on those areas. The measure provides for a free conveyance of the ground by Lord Dysart and the trustees of the will of his predecessor in title, and for the extinction of lammas and other rights of common over part of Ham Fields, with compensation to Lord Dysart and the trustees in respect of similar rights, and the sale or exchange of other portions of the Ham Lammas Lands. The Bill complements the project for purchasing the Marble Hill estate, 66½ acres, on the opposite side of the river, for 72,000*l.*, to be contributed by the Middlesex (12,000*l.*), London (36,000*l.*), and Surrey (10,000*l.*) County Councils, the Corporations of London (5,000*l.*) and Richmond (5,000*l.*), and the Councils of Twickenham (3,000*l.*) and Hammersmith (1,000*l.*). Marble Hill has frontages of 2,100 ft. to the river, and 1,750 ft. to the Orleans and Richmond roads. It is said that Lords Burlington and Pembroke designed the house for Henrietta Howard, elevated Countess of Suffolk by George II., who gave 12,000*l.* towards the cost of it; it was since tenanted by another Royal favourite, Mrs. Fitzherbert. Cobbett's "Memorials of Twickenham" relates that Pope planned the gardens, and Dean Swift stocked the cellar. The house forms an interesting specimen of the stately "villa" of its day. Prominence was given to the first floor, the ground and second floors having a comparatively low altitude. Mahogany wood was extensively used in the interior, the staircase and some of the room floors also being made of it. The property was offered for sale at the Mart in August, 1888, and withdrawn after a bidding of 52,000*l.*

SHALLOW UNDERGROUND TRAMWAYS. — The London County Council have issued a Report on shallow underground tramways, which contains a joint Report by the Tramways Manager and the Electrical Engineer of the Council on the construction and working of the Boston, U.S.A. subway, and on the rapid transit subway now under construction in New York, and an addendum by Mr. J. Allen Baker, Vice-Chairman of the Highways Committee. The Report is illustrated with maps and reproductions of photographs of existing shallow underground tramways similar to that which it is proposed to construct from Southampton-row to the Thames Embankment.

REFUSE DESTRUCTORS, BRADFORD.—An inquiry has just been held at the Bradford Town Hall by Lieutenant-Colonel A. C. Smith, R.E., one of the inspectors of the Local Government Board, into the application of the Bradford Corporation to borrow a sum of 93,000*l.* to provide for the erection of refuse destructors at Greengates, Fairweather Green, Low Moor, Tong, and Southfield-lane, and for additions and new works at the present Sunbridge-road and Hammerton-street destructors, respectively. The Town Clerk (Mr. F. C. Stevens) conducted the case for the Corporation, and was accompanied by the City Surveyor (Mr. J. H. Cox), the City Architect (Mr. Edwards), the Medical Officer of Health (Dr. W. A. Evans), and the Cleansing Superintendent (Mr. J. McTaggart), and others. The only opposition offered was with respect to the Low Moor and Fairweather Green schemes.

THE CHURCH CRAFTS LEAGUE.—The second annual meeting of the League was held on Thursday, November 28, at London House, 32, St. James'-square, the Bishop of Rochester in the chair. The adoption of the annual report was moved by the Bishop of Rochester, who referred at length to the encouraging manner in which the League had gone forward during the past year. The membership had been doubled, both amongst the artists and the ordinary members, and the work done through the League had increased proportionately. The applications received for advice during the year had numbered ninety-one, and in every case this had been given free of all cost to the inquirer. Work had already been placed in twenty-six churches, while a large number of schemes were in progress, and would come into next year's statistics. Meetings of the League had been held at Oxford (through the kindness of Dr. Biggs) and at Mr. Stirling Lee's studio at Chelsea, and the results of these gatherings had been so satisfactory that it had been decided to arrange another series during the coming winter. The Committee had also taken in hand the compilation of a book of simple designs for churchyard monuments, with suggestions for the use of clergy as to the protection of churchyards from disfigurement, and it was hoped that this might help considerably towards a much-needed reform. Mr. T. Stirling Lee seconded the adoption of the report, and referred to the wide area over which the work done by the artist members had been spread, extending as it did to the Colonies. Mr. Dyer Edwardes proposed, and Mr. Henry Holiday seconded, that the Bishop of Rochester be re-elected President, and this was agreed to unanimously. The election of three ordinary and three artist members of the Committee to fill the places of those retiring under the Rules of the League was then proceeded with, and resulted in Canon Rhodes Bristow, Dr. F. D. Drewitt, Mr. J. T. Micklethwaite, Mr. R. Anning Bell, Mr. T. Stirling Lee, Mr. C. O. Skilbeck being elected, while Mr. T. Dyer Edwardes was elected treasurer for the ensuing year. An election of artist members followed, the successful candidates being Mr. Robert Marchant (architect), Mr. Robert Hilton (metal-worker), Mr. Jasper Brett (glassworker), Mr. Hilyard Swinstead (painter), and Mr. John D. Seddon (architect). At the conclusion of the business, discussion took place on the future work of the League, in which Canon Armitage Robinson, Mr. J. E. Dowson, Rev. Percy Dearmer, and others took part.

INSTITUTE OF BRITISH DECORATORS.—In connexion with the Northern Branch of the Institute of British Decorators a lecture was given at Sheffield, on the 28th ult., by Mr. G. C. Haité, on the subject "Decoration and Decorators, a survey of the past and present." Mr. Haité dealt chiefly with the domestic aspects of decoration, referring to it as the art which surrounds us during the most impressionable period of our lives—the days and hours of childhood—and which beautifies the surroundings of the greater part of our lives. Its influence for good or bad was much stronger than was generally imagined, and, in his opinion, every nursery should be decorated in such a manner as would tend to educate and elevate the infant mind. Until quite recently, decoration had been a luxury only obtainable by the rich. Since the introduction of wall-paper, however, it had become accessible to the people, and he thought that there was no longer an excuse for anyone who desired to have an artistically decorated home failing to get it. Decoration was at its lowest ebb, perhaps, at the beginning of the last century, but after the great Exhibition of 1851 a change became manifest. Decoration was not yet, however, what it ought to be. Some exponents of what is called fine art assert that there are as laws no general principles to govern art expressions, but this was wrong. The great principle which applies to all art expression, as it does to life itself, was "fitness." Let the expression of art be of our own time and our own faith, accepting, and content only with the best to be had, and rendering it capable of bearing the tests of logical reasoning. Exceptional opportunities for the decoration of public buildings and palaces were few. In a humble way, however, in domestic decoration, problems occurred that called for all the judgment, experience, and originality likely to be at the decorator's command. Substitutes for hand work were now supplied most plentifully, and in the right choice and use of these materials the decorator of to-day had great scope for the display of individuality and skill. It was no use inveighing against the use of these materials, for they were an evidence of the times, and many of them of great excellence. In fact, the manufacturer had outstripped the decorator. He had supplied media, artistic in form and colour, at a price possible for all; and it was for the decorator to apply these with skill, taste, and judgment. Some people contended that decoration was decadent; but if such were the case, it was because of the commercialism imported into its practice by the huge combinations of decoration with other trades In conclusion, he urged that decorative art was a necessity in the progress of civilisation, and should therefore be educational; that manufactured goods were not essentially antagonistic to the art of the decorator; that it was desirable that the art of the decorator should be kept apart from other trades instead of being undertaken by linendrapers and furnishing firms. He submitted as a scheme to them that the decorators of the country should appoint a council through this Institute, to organise an exhibition of decorated rooms in London, to be kept open say for three months, and that afterwards it might be sent to the larger provincial centres. He thought such an exhibition would go far to abolish what he designated as the "Tottenham Court-road" school.

ELECTRICAL RAILWAYS, LONDON AND THE SUBURBS.—Amongst the numerous projects for which powers will be sought in the course of the ensuing Session of Parliament we may cite the following schemes for electrical railways:—From Cannon-street Terminus to Southwark Bridge-road, Kennington, St. John's Hill, Wandsworth, and Hartfield-road, Wimbledon; Hammersmith to Barnes, and West Strand to Piccadilly Circus and Hyde Park Corner, with subways at Charing Cross and Hyde Park Corner; Edgware Station to Finchley-road, Hendon, and Holly Bush Hill, Hampstead; Cannon-street and Queen-street to Rye-lane, Peckham, and the Penge entrance to the Crystal Palace; Shepherd's Bush and Hammersmith to Barnes, Knightsbridge, Charing Cross, Clapham Junction, and Marble Arch; Peckham Rye Common to Gracechurch-street and Barking-road, Plaistow; and Camberwell New-road to Nelson-street, Greenwich.

PROPOSED IMPROVEMENTS IN MANCHESTER.—A Bill has been prepared to authorise the incorporation of a company for acquiring a site that lies on the west side of Corporation-street and extends southwards to Market-street, between Cannon and New Brown streets, for erecting new buildings on that area, and for making new streets—one from the junction of Corporation and Cannon streets to the junction of Market and New Brown streets, the other from the junction of Cannon and New Brown streets to the junction of Corporation and Market streets, which will furnish more direct lines of communication from the Manchester Exchange and Victoria Station to Shudehill Market. The contemplated City Circle underground railway, to be worked with electrical power, will have its chief station at the corner of Tod-street and Long Millgate, near Victoria Station and the Cathedral schools, with a generating station on the west side of the Corporation hydraulic power works, by the Rochdale Canal.

MANCHESTER HOUSING SCHEME AT BLACKLEY.—The Housing Sub-Committee of the Sanitary Committee of the Manchester City Council, after inquiry with the City Surveyor, have decided upon new plans for the model cottages to be built at Blackley for submission to the Council and to the Local Government Board. In a great degree the plans approved follow the lines adopted in the building of model cottages at Leek, in Staffordshire, and have several improvements as compared with the original design. The chief additions are a bathroom and a bedroom, the former room being placed on the ground floor immediately behind the kitchen fireplace. Access to it is obtained from the scullery, from which it can at pleasure be cut off when in use by folding doors. The bathroom is to be made available for washing purposes generally. The third bedroom is to be in the centre of the building, the floor being 3 ft. 6 in. higher than that of the other bedrooms So far as the cost is concerned, the alteration in the original scheme for the erection of 203 cottages will involve an additional outlay of 7,000*l.*, and application to borrow this sum will have to be made to the Local Government Board if the plans are adopted by the City Council.—*Manchester Guardian.*

SCARBOROUGH MASTER BUILDERS' ASSOCIATION.—The annual meeting of the Scarborough Master Builders' Association was held at the Albemarle Hotel, on the 30th ult., Mr. A. W. Sinclair (President) occupying the chair. The annual report and balance-sheet, presented by Mr. R. H. Carr, were considered very satisfactory and were adopted. The officers for the ensuing year were re-elected as follows:—President, Mr. A. W. Sinclair; Vice-president, Mr. T. B. Jowsey; auditors, Mr. W. Malton and Mr. W. Tindall; secretary, Mr. R. H. Carr. Messrs. A. W. Sinclair, Moore, R. H. Carr, and Councillor Bland were elected the four delegates to represent the association upon the National Federation of Building Trade Employers of Great Britain and Ireland at the two half-yearly meetings.

SUNDERLAND AND DISTRICT BUILDING TRADES ASSOCIATION.—The annual meeting of the Sunderland and District Building Trades' Association was held on the 28th ult. in the Grand Hotel, Sunderland. In the annual report, which was read by

Mr. W. H. Hope, the secretary, it was stated that there was one great question looming on the builders' horizon, as it did on the horizon of employers generally, and that was the great evil which was sapping the entire business relations of employers and employed. This referred to the action of the operatives in the way they worked in the different branches of the trade. The effect of the limitation of the amount of work to be done by a workman kept up the cost and militated against the letting of contracts, and, further, was handicapping this country enormously in its struggle to maintain its commercial supremacy. Mr. J. B. Stott was elected President, in the place of Mr. J. W. White, who retired.

NATIONAL REGISTRATION OF PLUMBERS.—The first of a series of papers for the winter session arranged by the District Council for Cardiff, South Wales and Monmouthshire, in connexion with the Worshipful Company of Plumbers, was delivered by the President for the year, Mr. W. H. Dashwood Caple, architect, at the Technical Schools, Cardiff, on Tuesday, the 26th ult., when there was a representative attendance of the master plumbers and operatives in the district. The subject of the President's paper was "Plumbing Notes," and it embraced the various branches of the work of the craft. At the conclusion of the paper there followed an interesting and instructive discussion. The other arrangements for the Session are as follows:—December 17, "The Plumber's Craft and the Registration Movement," by Mr. E. B. Sawyer; January 21, "Sanitation of our Homes," by Mr. E. J. Manders; February 18, "Roof Water and how to deal with it," by Mr. C. R. Williams; March 18, "Cardiff Water Supply," by Mr. W. H. Allen; April 15, a paper by Mr. Edwin Seward; May 20, "Some Defects in our Local Sanitary System from a Plumber's point of view," by Mr. E. J. Sawyer. The meetings will be held on Tuesday evenings at eight o'clock in the Technical Schools, Dumfries-place, Cardiff.

APPOINTMENT, WALTHAMSTOW.—At the last ordinary meeting of the Walthamstow School Board, held on the 22nd ult., Mr. H. Prosser, the Board's Surveyor, was appointed Architect and Surveyor to the Board at a commencing salary of 250*l.* per annum.

A HERALDIC CALENDAR.—An exceptionally well-designed and printed calendar for the coming year has reached us from Messrs. Archibald Constable & Co. with the title of "St. George's Kalendar." Its chief feature is some very boldly drawn heraldry. It is in book form, with shields charged with the Cross of St. George, and the three lions passant of England on the cover. Opposite each month is a coat of arms with helmet mantling crest printed in colours, including, among others, the arms of Howard, Courtenay Hastings, Berkeley, Scrope, and Clifford. The last named is particularly effective. The calendar is published at the very moderate price of 1s. net.

FIRE TESTS WITH DOORS.—The British Fire Prevention Committee again undertook a series of investigations at their Bayswater testing station on Wednesday. Mr. Edwin O. Sachs, chairman of the executive, presided, and among the principal visitors were Sir Joseph Renals, Bart. (lately Lord Mayor), Sir James Weeks Szlumper (lately Mayor of Richmond), Major Fox (London Salvage Corps), Captain Dyson (Windsor), and a number of representatives from the London County Council, the Local Authorities and principal fire insurance companies. The afternoon was devoted to tests with doors, firstly, with two double deal doors and two double oak doors; secondly, with a single "Jarrah" wood door and a single "Karri" wood door, the thickness of the doors in each case being 2 in. The double oak doors appeared to have very considerable fire-resistance compared to the deal double doors, the test in each case extending to one and three-quarter hours. The "Karri" and "Jarrah" wood doors were, unfortunately, badly constructed by the makers, and, although the wood itself showed considerable resistance during a test of one hour, the fire appeared to get through where the joints had not been satisfactorily made. The full official reports will shortly appear in the usual way. It might be noted that the testing operations were somewhat hampered by the fog, all the photographs and records having to be taken by flash-light.

SEWER VENTILATION.—We have received from Mr. Joseph Aird, of Great Bridge, Staffordshire, a description of his tubular sewer-ventilating standard. The standard has a cast-iron base with an arm for connecting to the sewer branch, and the upper part is formed of wrought-iron or mild steel tubes, which can be built up to any reasonable height. The tops of the standards are fitted with cowls or wire guards. Mr. Aird claims that these standards can be utilised for the dual purpose of sewer ventilators and telegraph or telephone poles. Certainly any invention which reduces the number of poles or shafts in our streets is worthy of consideration. As a sewer ventilator, Mr. Aird's standard has advantages over cast-iron, as it can be carried up to a greater height and need not be as heavy.

WINDOW, NEWTON TRACEY CHURCH, NORTH DEVON.—A new stained-glass window was unveiled on Advent Sunday at St. Thomas a Becket's church, Newton Tracey, near Barnstaple. The window, consisting of three lights, illustrates the parable of the "Pharisee and Publican," and is dedicated to the memory of T. H. E. H. Dimond Hogg, who was a warden of the parish for twenty-one years. The work is from the studio of Mr. Gilbert P. Gammon, of London.

## *CAPITAL AND LABOUR.*

THE PENRHYN QUARRY.—Since work was resumed at the quarry on June 11 the number of men employed has steadily increased. During the last three quarry months 103 employés have been admitted—namely, during September, twenty-seven; October, forty; and November, thirty-six. Notwithstanding the short hours it is now possible to work, the production of slates continues very satisfactory, and it is expected that this month will show an output at the rate of 35,000 tons per annum. The district is still unfortunately in a very disturbed state. The usual weekly mass meeting of some of those on strike was held on Saturday evening.

SLATE TRADE.—Price-lists for 1902 have just been issued by the Dinorwic, Penrhyn, and Festiniog Quarries, and the Carnarvon ones will be out in a day or two. Prices show an upward tendency, but not sufficient to encourage foreign competition, especially with the rise in American slates, caused, no doubt, by better home demand. The Mineral Statistics for 1900 showed a considerable falling in tonnage value of Welsh slates.

## *LEGAL.*

### MARYLEBONE BUILDING DISPUTE.

THE case of White *v.* Harrow—Harrow *v.* the Marylebone District Property Co., came before Mr. Justice Joyce in the Chancery Division on the 29th ult. on a motion by the applicant White for a stay of proceedings of the action Harrow had commenced against the Marylebone District Property Company, Limited.

It appeared that White was the lessee of No. 24, High-street, Marylebone, from the trustees of the Howard de Walden estate for a term of about thirty years unexpired. By a deed dated August 3, 1899, White underleased the house for a term of twenty-one years to Harrow, together with all easements and appurtenances belonging to the premises. The lease contained a covenant that the lessee would not "object to any works to adjoining premises which might be sanctioned by or on behalf of the lessor or the superior landlord." The lease also contained the usual covenant for quiet enjoyment of the premises. It seemed that the Company, having acquired an interest in property adjoining No. 24, High-street, which formed part of the same estate, proposed to erect thereon some buildings which Harrow said would obstruct his light, and brought an action against the Company to restrain the Company from obstructing his light. These proposed buildings had been approved by the surveyor of the Howard de Walden estate. Mr. White, who was also interested in the Company, then took the present proceedings to restrain Harrow from prosecuting his action on the ground that it constituted a breach of the above-mentioned covenant.

At the conclusion of the arguments of Counsel, his Lordship came to the conclusion that the covenant in question prevented the lessee from raising objection to any building works on the adjoining premises which might have been so sanctioned, and accordingly stayed the proceedings taken by Harrow against the Company.

Mr. Hughes, K.C., and Mr. Wace appeared for the applicant, and Mr. Younger, K.C., and Mr. E. Ford for the respondent.

### ACTION BY FOREMAN CARPENTER FOR DAMAGES AND PERSONAL INJURIES.

THE case of Simons *v.* the Birkbeck Building Society came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Stirling and Matthew, on the 2nd and 3rd insts., on the application of the defendants for judgment or new trial on appeal from verdict and judgment entered at the trial before Mr. Justice Darling and a common jury in the King's Bench Division on June 11 last. The case was reported in the *Builder* of June 15, 1901.

The facts were shortly as follows: The plaintiff, a foreman carpenter, brought the action to recover damages from the defendants for personal injuries sustained through the alleged negligence of the defendants in the following circumstances. The plaintiff, prior to the accident, had earned some 55s. a week. Having saved some money and being desirous of buying a house, and not having a sufficient sum laid by he borrowed some money from the Birkbeck Building Society. The loan was repaid in monthly payments, the plaintiff's wife being in the habit of taking the money to the Society. On August 13, 1900, however, the plaintiff took the money to the bank himself, and never having been there before, and on asking the porter where he should go, understood him to say "Third floor on the lift." The plaintiff looked round and seeing the entrance to the lift walked towards it. There was no light, and the plaintiff instead of walking into the lift fell down the shaft, a distance of about 15 ft., sustaining severe injuries, for which he claimed damages. For the defendants it was contended that the lift-door was only open some 8 in. or 10 in. at most, and that the plaintiff in opening it further had been guilty of contributory negligence. In the result the jury awarded the plaintiff 150*l.* damages, and judgment was entered accordingly. Hence the present application of the defendants, who asked for judgment or a new trial on the grounds that the verdict was against the weight of evidence and that the learned Judge had misdirected the jury.

In the result their lordships allowed the appeal, holding that there was no evidence of negligence on the part of the defendants, and entered judgment for them with costs.

## RECENT PATENTS:

### ABSTRACTS OF PATENTED INVENTIONS.

13,363.—A MACHINE FOR ROAD-MAKING AND KINDRED USES: *F. Behmer.*—By substituting a chisel-shaped tool for the hammer, and employing an anvil, the motor-driven machine for ramming paving material will serve also for working or splitting stone. An eccentric and a rod upon the shaft, which is driven with a belt from the motor-driven shaft, work the hammer; provision is made for angular or linear adjustments with a hand-wheel that works worm and sector gearing, a bell-crank lever, and other mechanism. Rollers upon rails enable the framing to be swung round the shaft on the carriage; the fore-carriage can take a rocking movement and be turned about for steering purposes; and worm-gearing will rotate in either direction the shaft on which are mounted the drums around which the steering chains are wound.

14,015.—A DOOR-CLOSING CONTRIVANCE: *G. F. Newman.*—The inner end of the closing-spring is hooked on to a sleeve that is joined at its upper end to a ratchet-wheel, whilst the outer end of the spring is hooked on to a groove within the casing. As the wheel rotates it moves—by means of a pawl that is pivotted upon the arm—a jointed door-closing arm. For checking purposes, two face-cams upon the axis reciprocate a piston with the turning of the axis. A spring valve allows the oil in the cylinder to freely flow through a spring-valve in one direction, but its return is prevented by means of a spring-controlled valve.

14,028.—AN APPARATUS FOR WINDOWS: *J. W Cottier.*—The spindles of toothed wheels carry coiled springs which balance the sashes, the wheels being in gear with racks upon the sash stiles. The springs are discarded in the case of small sashes, which can be fastened at any height desired with springs that engage with the toothed wheels or spring-pins that engage with the racks.

14,063.—A COMBINED FUSE AND SWITCH: *G. C. Pillinger and A. Vandam.*—A switch arm for use upon distributing-boards is made of some insulating material, and its contacts are disposed for engagement with the terminals, the fuse having a support fitted with plugs that will bridge the contacts. In another form the switch arm carries the fuse wire directly which is fastened with screws.

14,069.—A LIGHTNING CONDUCTOR: *A.-G. Elektricitatswerke vorm. O. L. Kummer & Co.*—The diverging spark gap horns of the conductor are fitted, near the spark-originating position, with cases of para-magnetical material having a horseshoe-shaped section, which may be carried upwards to some extent.

14,083.—MOULDING MACHINERY FOR BRICKS, TILES, &C.: *W. Wilkinson.*—The driving shaft and the eccentrical shaft of the press are in one and the same vertical plane, the latter being worked with a pinion and a spur-wheel; a geared pinion turns a pug-mill shaft, which is set at a level lower than that of the driving-shaft; across the pug-mill shaft is another shaft which carries gearing that rotates intermittently a moulding cylinder in front of the pug-mill; the rebated foundation block of the press is bolted between rebated side frames.

14,097.—URINALS: *J. Shanks.*—The inventor uses one slab, or more, for building up the back of the urinal, of which the stalls are separated with pillars which are made wider at the back, and so as to afford enough space in front of the slab for cleansing and flushing purposes. Capping blocks may be adapted to join the pillars to the back.

14,114.—REMOVAL OF PAINT, &C.: *A. Klee.*—For removing varnishes, paints, and so on the inventor devises an emulsion which is compounded of linseed oil, soda, Venetian turpentine, water, and spirits of wine.

14,152.—A COMBINED DRY CLOSET AND DESTRUCTOR FURNACE: *F. P. Smith.*—These are made in a portable form and are intended for use in camps, &c. Above a grate is a convexed plate on to which the refuse is passed through an opening, receptacles for the ashes are rocked upon cross-shafts so as to cast their contents into the grate from which they are conveyed between triangular bars to a receptacle at the base, a flue is connected to the upper portion of the furnace, and over it the closet seats are arranged; the lower portion of the furnace is joined to a lower flue by a pipe that leads into the main chimney; when the damper is

shut the supply of air is drawn through the seats and the flue, the lower flue carries away the heated gases so as to heat the plate upon which the soil has accumulated.

14,202.—A Dust Bin: *H. Smith.*—The bin has a sloping bottom-plate and a hinged lid, the bottom constitutes a shoot for the discharge of its contents when the bin is turned upon the pivot which supports it upon a casing that is fixed in the wall, the turning of the bin is regulated with a fastening and a stop-piece.

14,208.—An Appliance for Windows: *J. M. Chambers and W. T. Christian.*—The inventors seek to prevent sashes from rattling; to the frame and sashes they attach pins on which are fitted perforated straps joined together with elastic rings; in one adaptation a buckle of one strap takes the tongue of the other, whereby the tension of the ring is limited in its extent; in another form the loose end of one strap is inserted through the ring and a buckle.

14,219.—Tiles and Facing-plates for Walls, &c: *F. Beer.*—That they may the better take cement or plaster the glass facing-plates and tiles are roughened with an admixture of silicate of sodium or potassium 1 part, and dry pulverised carbonate of lime 2 parts. When that is dry a backing of plaster or cement is applied, the plaster being wetted with formic aldehyde or alum to render it insoluble, infusible, and non-putrescible, or gauged or mixed with water that contains gelatine.

14,243.—Valves of Various Kinds: *S. E. Alley.*—The piston of a reducing-valve that has an inverted conical valve joined to a piston of greater area is provided with a flexible diaphragm fastened with a screwed washer on to the casing and enclosed with a pierced cover. A screwed spindle will serve to make the valve available for a stop-valve, or that object can be effected by the employment of a headed stud which is screwed into the end of the spindle so as to work within a recess in the valve. In another form a washer and a flanged ring retain the diaphragm between them.

14,253.—An Attachment for Door Knobs and Handles: *J. E. Cope.*—One end of a squared spindle is screwed for taking a loose knob, and another knob is affixed to its other end; a squared hole in the loose knob takes a squared collar that will slide upon the spindle, which has an ordinary rose at one end, and at the other end a rose formed of two hinged parts kept in place with screws. For adjustment, one passes the spindle through the door, threads upon it the rose, the collar, and the loose knob, and then fixes them all in position by inserting the hinged rose, when the spindle has been forced forwards for engaging the collar and the loose knob; a metallic mounting fastened in the knob is screwed into engagement with the spindle, when the knobs are of wood, china, or glass.

14,278.—Manufacture of Portland Cement: *H. Passow.*—The materials are melted down and granulated as oxygen, air, or gases charged with oxygen are passed through them. A cement produced by grinding blast-furnace clinker similarly treated may be added to ordinary Portland cement. The slag, &c., may be treated with air in an apparatus after the Bessemer-converter kind.

14,289.—A Tumbler-Switch: *A. W. B. Pearson.*—In order that the contact-lever when in the "off" position shall rise to an almost horizontal direction it is fashioned in a short length and the operating lever is curved accordingly; for ensuring a quick break a pawl is set in engagement with the lever, and will so remain until the movement of the handle is nearly finished.

14,295.—Locks for Doors: *J. M. Burguy.*—A follower which is worked by handles upon a spindle, and an especially shaped spring work the latch-lock for a pair of folding-doors, a lever worked by a key outside and by a stud inside controls the lock-bolt that may be shot either behind the latch-bolt or into a notch so that by keeping it drawn back the doors may serve as swing-doors. The stud also will put the lock-bolt into a midway position to lock the latch-bolt and the key will not draw it back, teeth upon a flange on the lever will engage with teeth upon the edge of the bolt by the action of a spring, whereby the lock-bolt will be held in that position. In another form a key is used on either side to turn the bolt, and when the bolt has been put into the intermediate position any one upon the opposite side is prevented from dislodging the key from the keyhole, since his attempt to turn it will be frustrated by a spring which is affixed to the bolt and engages with a notch cut in the lever.

14,317.—A Fastening for Window Sashes: *W. Braby.*—A bevelled latch-bolt to be shot with a spring into engagement with the catch operates in the casing upon the meeting-rail of the lower sash, and when it has been so shot is made fast with a bar that falls behind a shoulder upon the bolt. For releasing the fastener one pulls the handle, thereby the lever will raise the bar and the bolt can be moved back; as the bolt is drawn away, a small bolt upon the top of the lever becomes forced forwards and rests upon the casing, then one holds up the bar until the closing of the window forces the latch-bolt back. In order that one's two hands may be free for lifting the sash, the latch-bolt is first drawn back, and then a plate that is hinged on to a pivoted plate is thrust between the catch and the end of the bolt.

14,320.—Burners for Blow-Pipes: *J. H. Letcher.*—Gas and air are supplied through a fixed plug, upon which rotates a sleeve which carries a radial set of blowpipe-burner tubes, and as each burner tube is turned into position for work, the gas and air are turned on automatically through ports made in the plug and the sleeve. A middle tube in the plug, and a passage (which also feeds a pilot flame) and ports convey the gases to the outside burner tube, as the air flows up the hollow of the plug and through a port into the inside tube. Another arrangement of the ports provides for the shutting-off, either wholly or partially, of the gas before the air-blast is acted upon by the turning-sleeve.

14,341.—A Cowl or Top for Ventilating Pipes, Chimneys, &c.: *G. McCaul.*—The top or cowl is fashioned with a hollow conical drum having ducts of which the flared ends will take the wind and so set up a draught, whilst rain is kept out with a conical hood resting upon legs.

14,365.—Bricks: *J. Borgar.*—The inventor devises a brick of which the face is fashioned with a rib or flange, his object being to dispense with pointing and to render the mortar invisible from without.

14,373.—An Electrical Cut-out.—*H. O. Farrell.*—The fuse-wires attached to removable bridges are disposed upon the fuse-boards, and the contact surfaces are placed at right angles with the plane of the bridge-pieces; in one arrangement the bridge that carries the fuse is E-shaped, the middle projection being placed between the contacts; in another form L-shaped contacts are fitted against a dividing-bridge made upon the base; the fuse is laid in a groove and spring-contacts are set upon the upper bridge.

## MEETINGS.

### Friday, December 6.

*Architectural Association Discussion Section.*—Mr. S. Perks on "The Ethics of Dilapidations." 7.30 p.m.

*Institution of Junior Engineers.* (Westminster Palace Hotel).—Paper on "Street Railway Construction for Electric Traction," by Mr. F. S. Pilling. 8 p.m.

*Institution of Civil Engineers* (*Students' Meeting*).—Mr. R. W. A. Brewer on "Gas-Engine Construction." 8 p.m.

*Birmingham Architectural Association.*—Mr. H. H. Statham on "The Architectural Treatment of Bridges."

*Glasgow Architectural Craftsmen's Society.*—Mr. C. Ernest Monro on "Hotel Planning and Construction." 8 p.m.

### Saturday, December 7.

*British Association of Waterworks Engineers.*—Winter meeting of the Association, to be held at the Geological Society's Rooms, Burlington House, London.—1. Ballots for the Council and Officers for 1902-3, and for new members and Associates. 2. Discussion on Mr. Ingham's paper, entitled "The Design, Construction, and Cost of Open and Covered Service Reservoirs." 3. Paper, entitled "French Practice in the Manufacture of Cast-Iron Pipes," by Mr. A. G. Cloake. 4. Paper, entitled "English Practice in the Manufacture of Cast-Iron Pipes," by Mr. S. H. Terry, M.Inst.C.E. 5. An abstract, entitled "American Practice in the Manufacture of Cast-Iron Pipes" (from the *Engineer*), will be taken as read. 6. Discussion on the three papers above mentioned. 10.30 a.m.

*British Institute of Certified Carpenters.*—Annual general meeting, Carpenters' Hall. 6 p.m.

*City of London College Science Society* (White-street, Moorfields, E.C.).—Visit to the works of the Baker-street and Waterloo Railway, by permission of the contractors, Messrs. Perry & Co.

### Monday, December 9.

*London Institution.*—Mr. Francis Bond on "Mediæval Monks and Monasteries." Illustrated. 5 p.m.

*Surveyors' Institution.*—Professor W. Somerville on "Artificial Manures." 8 p.m.

*Institution of Electrical Engineers.*—Annual dinner.

*Clerks of Works' Association, Carpenters' Hall.*—Monthly meeting. Paper by Mr. T. Stirling, jun. 8 p.m.

*Bristol Society of Architects.*—Mr. Harold Smith on "Paris, Past and Present," with limelight illustrations. 8 p.m.

### Tuesday, December 10.

*Institution of Civil Engineers.*—(1) Further discussion of Mr. J. A. F. Aspinall's paper on "Train Resistance;" 2) Mr. B. Donkin on "Motive Power from Blast Furnace Gases." 8 p.m.

*Cardiff, South Wales, and Monmouthshire Architects' Society.*—Paper by Mr. J. Coates Carter. 8 p.m.

*Institution of Electrical Engineers* (*Glasgow Section*, 207, Bath-street).—Mr. W. Murray Morrison on "Aluminium: Notes on its Production, Properties, and Use." 8 p.m.

### Wednesday, December 11.

*Society of Arts.*—Professor Ernest Wilson, M.Inst.E.E., on "Aluminium." 8 p.m.

*Institution of Civil Engineers.*—Students' visit to Messrs. Maple & Co.'s New Electricity-driven Cabinet Factory in Highgate-road. 3 p.m.

*Northern Architectural Association.*—Mr. J. M. Carr on "Terra Cotta, &c.," with lantern illustrations and models. 7.30 p.m.

*Institution of Electrical Engineers* (*Birmingham Local Section*).—Dr. W. E. Sumpner will read short papers, "On the Power Factor of Alternate Current Circuits," "On the Workshop Testing of Dynamos and Motors." 7.30 p.m.

*St. Paul's Ecclesiological Society.*—Paper by Mr. Leopold G. Wickham Legg, B.A., entitled "Suggestions for the Reconstruction of the Coronation Ceremonies," illustrated by limelight lantern views of the Regalia, the Royal P ssions, and Westminster Abbey and Hall. p.m.

### Thursday, December 12.

*Manchester Society of Architects.*—Mr. Halsey Ricardo on "The Revival of Gothic Architecture," illustrated by lantern slides.

*Sheffield Society of Architects and Surveyors.*—Mr. A. Jeffery on "Stained Glass."

*Leeds and Yorkshire Architectural Society.*—Rev. H. A. Hall, M.A., on "Some Village Churches of North Devon." 6.30 p.m.

*Institution of Electrical Engineers* (*Great George-street, Westminster, S.W.*).—1. Conclusion of discussion on "The Physical Properties of Certain Aluminium Alloys and Some Notes on Aluminium Conductors," by Professor E. Wilson. 2. "Some Principles Underlying the Profitable Sale of Electricity," by Mr. Arthur Wright. 8 p.m.

### Friday, December 13.

*Architectural Association.*—"Travelling Students Notes," by Mr. J. E. Forbes. 7.30 p.m.

### Saturday, December 14.

*Institution of Junior Engineers.*—Visit to the Croydon Combined Electric Light and Traction Works. 3.15 p.m.

*Dundee Institute of Architecture.*—Visit to Arbroath and Hospitalfield.

## SOME RECENT SALES OF PROPERTY

### ESTATE EXCHANGE REPORT.

November 20.—By Driver, Jonas, & Co. (at Usk).

| | |
|---|---|
| Raglan, Mon.—Enclosures of land, 47 a. 1 r. 14 p., f. | £635 |
| Cottage and meadows, 15 a. 2 r. 24 p., f. | 505 |
| Tregare, Mon.—Enclosures of land, 29 a. 1 r. 26 p., f. | 825 |
| Penrhos, &c., Mon.—Coed-y-felin Farm and Duke's Gorse, 53 a. 2 r. 15 p., f. | 400 |
| Llantilio-Crossenny, Mon.—Porthgwyn Farm, 13 a. 0 r. 28 p., f. | 300 |
| Tregare, &c., Mon.—Enclosures of land, 131 a. 0 r. 1 p., f. | 2,045 |
| Common Farm, 95 a. 0 r. 12 p., f. | 1,130 |
| Two cottages and 18 a. 1 r. 6 p., f. | 710 |
| Llangoven, Mon.—Cottage and 1 a. 0 r. 20 p., f. | 100 |
| Trecastle Farm, 242 a. 1 r. 38 p., f. | 3,000 |
| Enclosures of land, 21 a. 2 r. 34 p., f. | 400 |
| Cwmcarvan, &c., Mon.—Cae-Garw Farm, 254 a. 2 r. 37 p., f. | 2,170 |
| Various cottages and 34 a. 2 r. 27 p., f. | 885 |
| Various enclosures, 39 a. 3 r. 12 p., f. | 662 |
| Mitchel Troy, Mon.—Box Cottage and 10 a. 0 r. 39 p., f. | 310 |
| Redwern Farm, 9 a. 3 r. 9 p., f. | 240 |
| Freehold house and 8 a. 0 r. 35 p. | 100 |
| Various cottages and 24 a. 1 r. 2 p., f. | 761 |
| Various enclosures, 14 a. 3 r. 28 p., f. | 315 |
| Penallt, Mon.—Various cottages and 28 a. 0 r. 20 p., f. | 641 |

November 21.—By Fuller, Moon, & Fuller (at Sydenham).

| | |
|---|---|
| Sydenham.—2 and 3, Holmshaw-rd., with stabling, yard, &c., f. | 1,730 |
| Adamsrill-rd., plot of building land, f. | 200 |

November 22.—By Messrs. Spelman (at Norwich).

| | |
|---|---|
| Norwich.—54, Calvert-st., f. | 100 |
| 73 and 75, Gladstone-st., f. | 268 |

November 25.—By T. C. Cox.

| | |
|---|---|
| Wethersfield, Essex.—Freehold brewery premises, with fifteen tied houses and various cottages, f. | 17,000 |

By Elliott, Son, & Boyton.

| | |
|---|---|
| Hanwell.—Lower Boston-rd., Floral Villa, f.; also two plots of land in rear, u.t. 3 yrs., r. 14*l.* | 650 |

By T. H. Currie & Co.

| | |
|---|---|
| Chiswick.—Hogarth-lane, Hogarth House, area ½ a., c. | 1,500 |
| Hammersmith.—8, Farce-rd., f. | 420 |
| Shepherd's Bush.—7, Grenside-rd.; also i.g.r. 4*l.*, u.t. 66 yrs., g.r. 4*l.* | 450 |
| Askew-rd., a piece of freehold land | 300 |

November 26.—By Belton & Sons.

| | |
|---|---|
| Hanley, Staffs.—Station-rd., The Grand Hotel, f. and c | 18,000 |

By Debenham, Tewson, & Co.

| | |
|---|---|
| Walton-on-Thames, Surrey.—Oatlands Park, The Castle Estate, 23 a. 0 r. 28 p., f. | 11,000 |

By Arthur Barton.

| | |
|---|---|
| Lee.—11 and 12, Bromley-rd., u.t. 63 yrs., g.r. 16*l.* | 700 |
| 142, Burnt Ash Hill, u.t. 63 yrs., g.r. 15*l.* | 700 |

By C. W. Davies & Son.

| | |
|---|---|
| Stoke Newington.—34, 36, and 56, Gordon-rd., u.t. 58 yrs., g.r. 18*l.* 16*s.*, r. 106*l.* | 1,100 |
| 9, Knebworth-rd., u.t. 63 yrs., g.r. 4*l.* 10*s.*, r. 32*l.* | 320 |
| 48, Harcombe-rd., u.t. 63 yrs., g.r. 5*l.*, r. 30*l.* | 325 |
| Mile End.—33 to 51 (odd), Entick-st., u.t. 48¼ yrs., g.r. 25*l.* | 1,910 |
| Bethnal Green.—35, Old Ford-rd., u.t. 38 yrs., g.r. 2*l.* 5*s.*, r. 24*l.* | 290 |

By H. Donaldson & Son.

| | |
|---|---|
| Dalston.—80, Queen's-rd., u.t. 23 yrs., g.r. 2*l.* 10*s.* | 300 |
| Stoke Newington.—25, Benthal-rd., u.t. 74 yrs., g.r. 8*l.*, e.r. 48*l.* | 415 |
| 1 and 2, Hope Cottages, with stabling and yard, area 7,000 ft., u.t. 11 yrs., g.r. 6*l.* | 230 |

By J. S. Richardson.

| | |
|---|---|
| Kentish Town.—7 and 9, Grafton st., u.t. 49 yrs., g.r. 14*l.*, r. 76*l.* | 700 |

By Tuckett & Son.

| | |
|---|---|
| Hayes, Middx.—Dawley-rd., the Hamborough Arms p.-h., &c., f.g r. 7*l.*, reversion in 12 yrs. | 1,600 |

By Joseph Stower (at Winchester House).

| | |
|---|---|
| Battle, Sussex.—Battle Abbey and domain, 6,118 a., f. | 200,000 |

By Fleuret, Sons, & Adams (at Masons' Hall Tavern).

| | |
|---|---|
| Clapham Common.—Nightingale-lane, the Nightingale tavern, f., with goodwill | 13,725 |

November 27.—By Balch & Balch.

| | |
|---|---|
| Highgate.—4, St. Albans Villas, u.t. 48 yrs., g.r. 10*l.* | 1,000 |
| Camden Town.—54, St. Augustine's-rd., u.t. 49 yrs., g.r. 7*l.*, e.r. 55*l.* | 590 |
| Stroud Green.—1, Granville-rd., u.t. 77 yrs., g.r. 10*l.*, r. 55*l.* | 610 |

Hackney.—16, Bishops-rd., u.t. 44 yrs., g.r. 5*l.*, r. 36*l.* ..... £310

By J. H. BULMER.

Rotherhithe.—1, 3, and 5, Paradise-st., f. ..... 1,090
55, Paradise-st., f. ..... 310
90, Paradise-st. (site of), area 1,900 ft., f. ..... 320
92, 94, 96, and 98, Paradise-st., f. ..... 1,430
Bermondsey.—222, 224, and 226, Alderminster-rd., u.t. 35 yrs., g.r. £15 ..... 555
47, Abbey-st., f. ..... 445
17, Yalding-rd., u.t. 32¾ yrs., g.r. 4*l.* 7s. 6d. ..... 255
127, Jamaica-rd., u.t. 36½ yrs., g.r. 6*l.*, r. 40*l.* .. 455
6, Lockwood-rd., u.t 44½ yrs., g.r. 3*l.* 10s., r. 30*l.* ..... 390
Horselydown.—20, Gainsford-st., and 9A, Curlew-st., u.t. 49 yrs., g.r. 5*l.* ..... 530
6, 7, 8, and 9, Curlew-st., u.t. 23 yrs., g.r. 28*l.*, r. 110*l.* ..... 530
Rotherhithe.—424 to 430 (even), Southwark Park-rd., u.t. 47¾ yrs., g.r. 12*l.*, r. 134*l.* 8s. ..... 1,090
20 to 23, Manor-lane, and 7, Suffolk-st, u.t. 48¾ yrs., g.r. 6*l.* 15s. ..... 755
8, 10, and 12, Suffolk-st., u.t. 48¾ yrs., g.r. 9*l.* .. 590
Peckham.—22 and 24, Choumert-grove, u.t. 55 yrs., g.r. 6*l.* ..... 530
Bermondsey.—37, Drummond-rd., u.t. 32 yrs., g.r. 3*l.* ..... 235

By HERRING, SON, & DAW.

Penge.—76, Beckenham-rd, f., r. 36*l.* ..... 650
St. George's East.—5, 6, and 7, Marmaduke-pl., f. 635

By MULLETT, BOOKER, & CO.

Portman-square.—90, Gloucester-pl., and 90, Gloucester-mews West, u.t. 11¼ yrs., g r. 145*l.* 260

By ALFRED RICHARDS.

Finsbury.—1 and 3, Clifton-st., u.t. 7 yrs., g.r. 18*l.*, r. 80*l.* ..... 150
Tottenham.—182 and 182A, Northumberland Pk., u.t. 49 yrs., g.r. 9*l.*, r. 48*l.* ..... 425

By R. TIDEY & SON.

Caledonian-rd.—3, Wynford-rd. f, r. 30*l.* ..... 440
Caledonian-rd.—Nos 192 to 200 (even), u.t. 42 yrs., g.r. 30*l.*, r. 312*l.* 10s. ..... 3,400
De Beauvoir Town.—53, Southgate-rd., u.t. 69½ yrs., g.r. 11*l.*, e.r. 55*l.* ..... 450

By VENTOM, BULL, & COOPER.

Shaftesbury-avenue.—Rupert-st., f.g r. 360*l.*, reversion in 75½ yrs. ..... 11,000
Lee.—Grove Park, Whitcliffe and 1 a., f. ..... 2,100
Camberwell.—61, Camberwell-rd., u.t. 70 yrs., g r. 30*l.*, r. 65*l.*, including underlease for 19 yrs. and goodwill ..... 750

By DOUGLAS YOUNG & CO.

Hackney.—10, Dunlace-rd., u.t. 56 yrs., g.r. 5*l.* 5s., r. 30*l.* ..... 340
29, Dunlace-rd., u.t 66 yrs., g r. 5*l.* 10s., r. 28*l.* 350
Bermondsey.—190 to 196 (even), Long-lane, with workshops in rear, f. ..... 2,360

By WYATT & SON (at Chichester).

Felpham, Sussex.—Vicarage-lane, four freehold cottages ..... 660

By A. BURTENSHAW & SON (at Hailsham).

Hurstmonceux, Sussex.—Gardner-st, the Brewer's Arms b.-h., f., r. 30*l.* ..... 1,000

By W. BROWN & CO. (at Berkhamstead).

Berkhamsted, Herts.—The Royal Oak b.-h., f., r. 20*l.* ..... 750
Northchurch, Herts.—Enclosures of land, 49 a. 1r. 20 p, f ..... 2,250

November 28.—By BAKER & SONS.

Willesden.—Talbot-rd., f.g.r. 8*l.* 8s., reversion in 85 yrs. ..... 195

By BALE & CAPPS.

Notting Hill.—87 to 93 (odd), Portobello-rd., u.t. 92 yrs, g.r 42*l.* 1 s., r. 157*l.* ..... 1,600
Bayswater.—47, Ledbury-rd., u.t. 39 yrs., g.r. 12*l.* 10s., r. 55*l.* 4s. ..... 1,600
Notting Hill.—76, Golborne-rd, u.t. 64½ yrs., g.r. 10*l.*, e r. 60*l.*, including goodwill ..... 610
Cricklewood.—10, Carlton-gdns., u t. 90½ yrs., g.r. 7*l.* 7s., e.r. 60*l.* ..... 600

By BROWETT & TAYLOR.

Barnes.—Castelnau, i.g.r. 20*l.*, u.t. 38 yrs., g.r. 17*l.* 2s. ..... 230

By PERCY H. CLARKE.

Forest Gate.—37, Ernest-rd., u.t. 75 yrs., g.r. 3*l.* 3s. ..... 170

By C. C. & T. MOORE.

Mile End.—5, Stepney-green, c, r. 50*l.* ..... 1,020

By NOTT, CARTWRIGHT, & ETCHES.

Southall.—8, 9, 10 and 11, Spencer-st., u.t. 94 yrs., g.r. 39*l.* 16s. ..... 200

By WM. STEVENS.

Dalston.—235 and 237, Queen's-rd., u.t. 23 yrs., g.r. 8*l.*, r. 76*l.* ..... 520

By STIMSON & SONS.

Walworth.—138 to 144 (even), South-st., u.t. 49¼ yrs., g.r. 17*l.* 10s. ..... 1,20
117 to 123 (odd), South-st., u.t. 48¾ yrs., g.r. 22*l.* ..... 0
5, 7, 9, 11, 19, 21, 25 and 27, Inville-rd., u.t. 48½ yrs., g r. 42*l.* 15s. ..... 970
83 and 85, Inville-rd., u.t. 49¼ yrs., g.r. 9*l.* 10s. 2,030
6, Inville-rd., u.t 48½ yrs., g.r. 4*l.* 10s. ..... 550
58 to 68 (even), Inville-rd., u.t. 49¼ yrs., g.r. 32*l.* ..... 320
1 and 3, Hopwood-st., u t. 48½ yrs., g.r. 9*l.* ..... 1,640
5 and 7, Hopwood-st., u.t. 48½ yrs., g.r. 26*l.* 10s., r. 234*l.* ..... 530
2 to 14 (even), Hopwood-st., u.t. 49 yrs., g.r. 31*l.* 10s. ..... 1,520
Bermondsey.—4, 5 and 6, Alfred-st., u t. 14¼ yrs., g.r 9*l.* 12s. ..... 2,030
70, 72 and 74, Fort-rd., u.t. 12¼ yrs., g.r. 15*l.* .. 290
38 to 48 (even), Beatrice-rd., u.t. 37¼ yrs., g.r. 30*l.* ..... 335
261 and 263, Lynton-rd., u.t. 41¼ yrs., g.r. 10*l.* 1,695
Rotherhithe.—35, Plough-rd., u.t. 49¼ yrs., g.r. 6*l.*, r. 35*l.* ..... 505
Peckham.—15 to 21 (odd), Evelina-rd, u.t. 72¼ yrs., g.r. 20*l.* ..... 320
45, Evelina-rd., u.t. 64½ yrs., g.r. 5*l.* ..... 1,080
17, Gibbon-rd., u.t. 72¼ yrs., g.r. 5*l.* ..... 250

November 29.—By EDWIN EVANS.

Westminster.—29 to 37 (odd), Grosvenor-st., u.t. 8 yrs., g r. 22*l.* .. ..... 260
Norwood.—40, South Norwood Hill, u.t. 94 yrs., g.r. 8*l.* 10s., e.r. 48*l.* ..... 335

By C. GERRETT & CO.

Norwood.—40, South Norwood Hill, u.t. 94 yrs., g.r. 8*l.* 10s., e.r. 48*l.* ..... 450

***Contractions used in these lists.***—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

# PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

## BRICKS, &c.

| | £ s d | |
|---|---|---|
| Hard Stocks | 1 12 0 | per 1,000 alongside, in river |
| Rough Stocks and Grizzles | 1 10 0 | " " " |
| Facing Stocks | 2 12 0 | " " " |
| Shippers | 2 8 0 | " " " |
| Flettons | 1 8 0 | " at railway depôt. |
| Red Wire Cuts | 1 13 0 | " " " |
| Best Fareham Red | 3 11 0 | " " " |
| Best Red pressed Ruabon Facing. | 5 5 0 | " " " |
| Best Blue Pressed Staffordshire | 4 6 6 | " " " |
| Do., Bullnose | 4 10 0 | " " " |
| Best Stourbridge Fire Bricks | 4 4 0 | " " " |
| GLAZED BRICKS | | |
| Best White and Ivory Glazed Stretchers | 13 0 0 | " " " |
| Headers | 12 0 0 | " " " |
| Quoins, Bullnose, and Flats | 17 0 0 | " " " |
| Double Stretchers | 19 0 0 | " " " |
| Double Headers | 16 0 0 | " " " |
| One Side and two Ends | 19 0 0 | " " " |
| Two Sides and one End | 20 0 0 | " " " |
| Splays, Chamfered, Squints | 20 0 0 | " " " |
| Best Dipped Salt Glazed Stretchers and Headers | 12 0 | " " " |
| Quoins, Bullnose, and Flats | 14 0 0 | " " " |
| Double Stretchers | 15 0 0 | " " " |
| Double Headers | 14 0 0 | " " " |
| One Side and two Ends | 15 0 0 | " " " |
| Two Sides and one End | 15 0 0 | " " " |
| Splays, Chamfered, Squints | 14 0 0 | " " " |
| Seconds Quality White and Dipped | | |
| Salt Glazed | 2 0 0 | " less than best. |

| | s. d. | |
|---|---|---|
| Thames and Pit Sand | 7 3 | per yard, delivered. |
| Thames Ballast | 6 0 | " " |
| Best Portland Cement | 32 0 | per ton, delivered. |
| Best Ground Blue Lias Lime | 25 6 | " " |

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 12s 6d. per yard, delivered
Stourbridge Fire-clay in sacks, 28s. od. per ton at rly. dpt

## STONE.

| | s. d. | |
|---|---|---|
| Ancaster in blocks | 1 11 | per ft. cube, deld. rly. dep't. |
| Bath " | 1 7 | " " |
| Farleigh Down Bath | 1 8 | " " |
| Beer in blocks | 1 6½ | " " |
| Grinshill " | 1 10 | " " |
| Brown Portland in blocks | 2 2 | " " |
| Darley Dale in blocks | 2 4 | " " |
| Red Corsehill " | 2 5 | " " |
| Red Mansfield " | 2 4 | " " |
| Hard York in blocks | 2 10 | " " |
| Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.) | 2 8 | per ft. super at rly. depôt |
| " " 6 in. Rubbed Ditto | 3 0 | " " |
| " " 3 in. sawn both sides slabs (random sizes) | 1 3 | " " |
| " " 2 in. self-faced Ditto | 0 9½ | " " |
| Hopton Wood (Hard bed) in blocks | 2 3 | per ft. cube. deld. rly. depôt |
| " " " 6-in sawn both sides landings | 2 7 | per ft. super. deld. rly. depôt. |
| " " " 3-in. do. | 1 2½ | " " |

## SLATES.

| in. in. | £ s. d. | |
|---|---|---|
| 20×10 best blue Bangor | 11 5 0 | per 1000 of 1200 at rly. dep. |
| " best seconds " | 10 15 0 | " " |
| 16× 8 best " | 6 2 6 | " " |
| 20×10 best blue Portmadoc | 10 18 0 | " " |
| 16× 8 best blue Portmadoc | 6 0 0 | " " |
| 20×10 best Eureka unfading green | 11 2 6 | " " |
| 16× 8 " " | 6 15 0 | " " |
| 20×10 Permanent green | 10 0 0 | " " |
| 16× 8 " " | 5 12 6 | " " |

## TILES.

| | s. d. | |
|---|---|---|
| Best plain red roofing tiles | 41 6 | per 1,000 at rly. depôt |
| Hip and valley tiles | 3 7 | per doz. " " |
| Best Broseley tiles | 48 6 | per 1,000 " " |
| Hip and valley tiles | 4 0 | per doz. " " |
| Best Ruabon Red, brown or brindled Do. (Edwards) | 57 6 | per 1,000 " " |
| Do. ornamental Do. | 60 0 | " " " |
| Hip tiles | 4 0 | per doz. " " |
| Valley tiles | 3 9 | " " " |
| Best Red or Mottled Staffordshire Do. (Peakes) | 50 9 | per 1,000 " " |
| Hip tiles | 4 1 | per doz. " " |
| Valley tiles | 3 8 | " " " |

## PRICES CURRENT (*Continued*).

## WOOD.

BUILDING WOOD.—YELLOW.

| | At per standard. £ s. d. | £ s. d. |
|---|---|---|
| Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in. | 13 10 0 | 15 10 0 |
| Deals: best 3 by 9 | 13 0 0 | 14 10 0 |
| Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in. | 10 0 0 | 11 0 0 |
| Battens: best 2½ by 6 and 3 by 6 | 0 10 0 | less than 7 in. and 8 in |
| Deals: seconds | 1 0 0 | less than best |
| Battens: seconds | 0 10 0 | " " " |
| 2 in. by 4 in. and 2 in. by 6 in. | 8 10 0 | 9 10 0 |
| 2 in. by 4½ in. and 2 in. by 5 in. | 8 0 0 | 9 0 0 |
| Foreign Sawn Boards— | | |
| 1 in. by 1½ in. by 1½ in. | 0 10 0 | more than battens. |
| ¾ in. | 1 0 0 | " |
| Fir timber: Best middling Danzig or Memel (average specification) | At per load of 50 ft. 4 10 0 | 5 0 0 |
| Seconds | 4 5 0 | 4 10 0 |
| Small timber (8 in. to 10 in.) | 3 12 6 | 3 15 0 |
| Swedish balks | 2 15 0 | 3 0 0 |
| Pitch pine timber (30 ft.) | 3 0 0 | 3 10 0 |

JOINERS' WOOD.

| | At per standard. £ s. d. | £ s. d. |
|---|---|---|
| White Sea: First yellow deals, 3 in. by 11 in. | 22 0 0 | 23 0 0 |
| 3 in. by 9 in. | 20 0 0 | 21 0 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 15 0 0 | 15 0 0 |
| Second yellow deals, 3 in. by 11 in. | 17 0 0 | 18 0 0 |
| " " 3 in. by 9 in. | 15 10 0 | 16 10 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 12 0 0 | 13 0 0 |
| Third yellow deals, 3 in. by 11 in. and 9 in. | 12 10 0 | 13 10 0 |
| Battens, 2½ in. and 3 in. by 7 in. | 10 10 0 | 11 10 0 |
| Petersburg: first yellow deals, 3 in. by 11 in. | 19 0 0 | 20 0 0 |
| Do. 3 in. by 9 in. | 16 0 0 | 17 0 0 |
| Battens | 12 10 0 | 13 0 0 |
| Second yellow deals, 3 in. by 11 in. | 14 0 0 | 15 0 0 |
| Do. 3 in. by 9 in. | 13 0 0 | 14 0 0 |
| Battens | 11 0 0 | 12 0 0 |
| Third yellow deals, 3 in. by 11 in. | 11 10 0 | 12 10 0 |
| Do. 3 in. by 9 in. | 11 0 0 | 12 0 0 |
| Battens | 10 0 0 | 11 0 0 |
| White Sea and Petersburg:— | | |
| First white deals, 3 in. by 11 in. | 13 10 0 | 14 10 0 |
| " " " 3 in. by 9 in. | 12 10 0 | 13 0 0 |
| Battens | 10 10 0 | 11 10 0 |
| Second white deals 3 in. by 11 in. | 12 10 0 | 13 10 0 |
| " " " 3 in. by 9 in. | 12 0 0 | 12 10 0 |
| " " battens | 9 10 0 | 10 10 0 |
| Pitch pine: deals | 16 0 0 | 18 0 0 |
| Under 2 in. thick extra | 0 10 0 | 1 0 0 |
| Yellow Pine—First, regular sizes | 32 0 0 | 33 10 0 |
| Broads (12 in. and up) | 2 0 0 | more. |
| Oddments | 22 0 0 | 24 0 0 |
| Seconds, regular sizes | 24 10 0 | 26 10 0 |
| Yellow Pine Oddments | 20 0 0 | 22 0 0 |
| Kauri Pine—Planks, per ft. cube | 0 3 6 | 0 4 6 |
| Danzig and Stettin Oak Logs— | | |
| Large, per ft. cube | 0 2 6 | 0 3 0 |
| Small " " | 0 2 3 | 0 2 6 |
| Wainscot Oak Logs, per ft. cube | 0 5 0 | 0 5 6 |
| Dry Wainscot Oak, per ft. sup. as inch | 0 0 8 | 0 0 7 |
| ¾ in. do. do. | 0 0 7 | - - - |
| Dry Mahogany— | | |
| Honduras, Tabasco, per ft. sup. as inch | 0 0 9 | 0 0 11 |
| Selected, Figury, per ft. sup. as inch | 0 1 6 | 0 2 0 |
| Dry Walnut, American, per ft. sup. as inch | 0 0 10 | 0 1 0 |
| Teak, per load | 16 0 0 | 20 0 0 |
| American Whitewood Planks— | | |
| Per ft. cube | 0 3 0 | 0 3 6 |
| Prepared Flooring— | Per square | |
| 1 in. by 7 in. yellow, planed and shot | 0 13 0 | 0 16 |
| 1 in. by 7 in. yellow, planed and matched | 0 13 6 | 0 17 6 |
| 1¼ in. by 7 in. yellow, planed and matched | 0 15 0 | 1 0 0 |
| 6 in. at 6d. per square less than 7 in. | | |
| 1 in. by 7 in. white, planed and shot | 0 11 0 | 0 12 6 |
| 1 in. by 7 in. white, planed and matched | 0 11 6 | 0 13 6 |
| 1¼ in. by 7 in. white, planed and matched | 0 13 6 | 0 15 6 |
| 6 in. at 6d. per square less than 7 in. | | |

## JOISTS, GIRDERS, &c.

| | In London, or delivered to Railway Vans, per ton. £ s. d. | £ s. d. |
|---|---|---|
| Rolled Steel Joists, ordinary sections | 6 5 0 | 7 5 0 |
| Compound Girders " " | 8 0 0 | 9 0 0 |
| Angles, Tees and Channels, ordinary sections | 8 2 6 | 9 2 6 |
| Flitch Plates | 8 10 0 | 9 0 0 |
| Cast Iron Columns and Stanchions, including ordinary patterns | 7 0 0 | 8 0 0 |

## METALS.

| | Per ton, in London. £ s. d. | £ s. d. |
|---|---|---|
| IRON.— | | |
| Common Bars | 8 0 0 | 8 10 0 |
| Staffordshire Crown Bars, good merchant quality | 8 10 0 | 9 0 0 |
| Staffordshire "Marked Bars" | 10 10 0 | - - - |
| Mild Steel Bars | 9 0 0 | 9 10 0 |
| Hoop Iron, basis price | 9 5 0 | 9 15 0 |
| " " galvanised | 16 0 0 | - - - |
| (* And upwards, according to size and gauge.) | | |
| Sheet Iron, Black.— | | |
| Ordinary sizes to 20 g. | 10 0 0 | - - - |
| " " to 24 g. | 11 0 0 | - - - |
| " " to 26 g. | 12 10 0 | - - - |
| Sheet Iron, Galvanised, flat, ordinary quality.— | | |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. | 12 10 0 | - - - |
| " " 22 g. and 24 g. | 13 0 0 | - - - |
| " " 26 g. | 14 0 0 | - - - |

[See also page 523.

# COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

*(For some Contracts, &c., still open, but not included in this List, see previous issues.)*

## COMPETITIONS.

| Nature of Work. | By whom Required. | Premiums. | Designs to be delivered |
|---|---|---|---|
| *Monument as Memorial to Her late Majesty | I. of W. Queen Vic. Mem. Comte.. | 25*l* | Jan. 31 |

## CONTRACTS.

| Nature of Work or Materials. | By whom Advertised. | Forms of Tender, &c., Supplied by | Tenders to be delivered |
|---|---|---|---|
| *800 cube yards of 1½-inch Quartzite | Beckenham U.D.C. | The Surveyor, Beckenham | Dec. 9 |
| *Workhouse and Infirmary | Parish of Hammersmith .. | Giles, Gough, & Trollope, 28, Craven-street, Charing Cross, W.C. | do. |
| School, Somerset-street | Kingston-upon-Hull School Board | B. S. Jacobs, Architect, Bowlalley-lane, Hull .. | Dec. 10 |
| Filter Bed, &c. | Bradford-on-Avon U.D.C. | S. Howard, Engineer, Town Hall, Bradford-on-Avon | do. |
| Workhouse Staircases, &c., Knutsford | Bucklow Guardians | R. J. M'Beath, Architect, Birnam House, Sale | do. |
| Electric Lighting Works, Vickerstown | Barrow School Board | H. T. Fowler, Architect, Ramsden-square, Barrow | do. |
| Street Works, Gordon-street, &c. | Amble (Northumberland) U.D.C.. | Surveyor, Council Offices. Amble | do. |
| Road Works, Burgoyne-road | Croydon Town Council | E. Mawdesley, Town Hall, Croydon | do. |
| Alterations, &c., to Chapel, Downham Market | | Rev. J. Needham, Bexwell-road, Downham Market | do. |
| Water Main, &c., Hollingdean-road | Brighton Town Council | F. J. Tillstone, Town Hall, Brighton | do. |
| Cast-iron Pipes (750 tons) | Brighton Corporation | do. | do. |
| Sewers | Southall Norwood (Middx.) U.D.C. | R. Brown, Civil Engineer, Public Offices, Southall | do. |
| *Making-up Street | West Ham Council | Borough Engineer, Town Hall, West Ham, E. | do. |
| Surveyor's Materials | Dublin Port and Docks Board | N. Proud, Docks Office, Westmoreland-street, Dublin | Dec. 11 |
| Bricks, Lime, &c. | Dover Harbour Board | W. Mowll, 36, Castle-street, Dover | do. |
| *Making-up and Paving Road | Fulham Council | Borough Surveyor, Town Hall, Fulham | do. |
| *Road-Making and Paving Works | Ware U.D.C. | J. Elliott Smales, New Road, Ware | Dec. 12 |
| *Alterations, &c., to Infirmary Kitchen | Wandsworth & Clapham Guardians | C. A. Sharp, Architect, 11, Old Queen-street, S.W. | do. |
| Chapel, &c., Threlkeld, Penrith | | J. F. Curwen, Architect, Highgate, Kendal | do. |
| Six Almshouses, Almondbury, Huddersfield | | J. Kirk & Sons, Architects, Huddersfield | do. |
| Paving Setts, Shipquay-place | Londonderry Corporation | City Surveyor, Guildhall, Londonderry | do. |
| Cast-iron Mains, Margate | Isle of Thanet Gas Company | J. Dougall, Engineer, The Dane, Margate | do. |
| Street Works | Ware (Herts) U.D.C. | J. E. Smales, Surveyor, New-road, Ware | do. |
| Cast-iron Pipes, &c. | Birmingham Corporation | E. A. Lees, 44, Broad-street, Birmingham | do. |
| *Stores and Materials for 12 months | Nottingham Corporation | City Engineer, Nottingham | do. |
| Farm Buildings, Dearnley | Rochdale Guardians | T. Townend, jun., Architect, Fleece-street, Rochdale | Dec. 13 |
| Paving Deepdale-road and Dove-street, Preston | | Borough Surveyor, Town Hall, Preston, Lancs | do. |
| Sewers, &c. | Devonport Corporation | J. Diggle, Civil Engineer, Heywood, Lancs | do. |
| Stoneware Conduits | Maidenhead Town Council | Burstall & Monkhouse, Engineers, 14, Old Queen-street, S.W. | do. |
| Electricity Station, Dunnikier-road | Kirkcaldy (N.B.) Corporation | W. Williamson, Architect, 220, High-street, Kirkcaldy | Dec. 14 |
| Engineering Shop, Dockside, Goole | | F. Chambers, Architect, Goole | do. |
| Road Stone, Newcastle-on-Tyne | Northumberland County Council | County Surveyor, Moot Hall, Newcastle | do. |
| Waterworks | Longtown R.D.C. | J Little, Civil Engineer, Viaduct Chambers, Carlisle | do. |
| Pile and Timber Quay | Poole Harbour Commissioners | H. F. J. Barnes, Architect, Towngate-street, Poole | do. |
| House, Ulting, Essex | Mr. H. N. Falkner | P. M. Beaumont, Civil Engineer, Maldon | do. |
| Stores Buildings | Blackpool Corporation | Borough Surveyor, Town Hall, Blackpool | do. |
| Farm Buildings, Cavenham Hall, Suffolk | Mr. A. B. H. Godschmidt | P. M. Beaumont, Civil Engineer, Maldon | do. |
| Three Houses, Churston Ferrers, Devon | Mr. T. B. Bolitho | W. F. Tollit, Architect, Totnes | do. |
| *Erection of Show Yard, Leeds | Yorks Agricultural Society | Society's Office, Blake-street, York | Dec. 16 |
| *New Pavilions and Alterations to Infirmary | Hull Royal Infirmary Board | T. Worthington & Son, Architects, 46, Brown-street, Manchester | do. |
| Additions to Public Baths, Davenport-street | Macclesfield Corporation | Borough Engineer, Town Hall, Macclesfield | do. |
| Water Supply Works, Gayton | Towcester District Council | J. B. Williams, Moot Hall, Daventry | do. |
| Sewerage Works, Rectory-road, &c. | Sutton Coldfield Corporation | W. A. H. Clarry, Civil Engineer, Town Hall, Sutton Coldfield | do. |
| Broken Granite (1,500 tons) | Romford R.D.C. | G. Lapwood, Surveyor, North-street, Romford | do. |
| Additions to Infirmary Buildings | Hull Infirmary Board | J. Watson, Surveyor, Bowl Alley-lane, Hull | do. |
| Hospital | Sevenoaks U.D.C. | W. H. Ansell, Architect, 11, Gt. James-street, Bedford-row, W.C. | do. |
| Street Works, St. Mary's-road | Eastbourne Corporation | R. M. Gloyne, Civil Engineer, Town Hall | do. |
| Clock Tower, Mallock Memorial, Torquay | | J. Donkin, Architect, Bournemouth | do. |
| Sewers | East Preston Guardians | Taylor & Co., Engineers, 27, Great George-street, S.W. | do. |
| *Construction of Strong Rooms | Bromley U.D.C. | Council's Surveyor, Bromley, Kent | Dec. 17 |
| *New Public Baths | Sutton (Surrey) U.D.C. | Council's Surveyor, Sutton, Surrey | do. |
| *Additions, &c., to Ashburton House, Penge | | The Secretary, 76 Beckenham-road, Penge | do. |
| *Heating Apparatus | Algernon-road Congregational Ch. | Secretary, care of Chapel Keeper, 8, Algernon-road, Lewisham | do. |
| Road Works, Cemetery-road, Hemel Hempstead | | W. R. Locke, Borough Surveyor, Hemel Hempstead | Dec. 18 |
| *Isolation Hospital, Great Stanmore | Hendon R.D.C. | J. A. Webb, Surveyor, Great Stanmore | do. |
| Steel Rails (4,000 tons) | Glasgow Corporation | J. Young, 86, Renfield-street, Glasgow | Dec. 20 |
| *Underground Convenience | Walthamstow U.D.C. | | do. |
| *Corrugated Iron Hospital | Bedwellty U.D.C. | Council's Engineer, Town Hall, Walthamstow | Dec. 21 |
| *Erection of Buildings for Electrical Power Station | Reading Corporation | Borough Engineer, Town Hall, Reading | do. |
| *New Bridge across River Ash at Littleton | Middlesex County Council | H. T. Wakelam, County Engineer, The Guildhall, Westminster | Dec. 31 |
| Refuse Destructor, Lifford | King's Norton U.D.C. | A. W. Cross, C.E., 23, Valentine-road, King's Heath, Birmingham | Jan. 6 |
| *Laying Second Line of Pipes, Thirlmere Aqueduct | Manchester Corp. Waterworks | G. H. Hill & Sons, 3, Victoria-street, Westminster, S.W. | Jan. 7 |
| Rebuilding Crown Bridge, Griffithstown, Wales | Panteg U.D.C. | D. J. Lougher, Engineer, Pontypool | Jan. 10 |
| Three Houses, Cemetery-road, Porth | | Mrs. S. A. Edmunds, Cornwall-road, Williamstown, Rhondda | No date |
| Alterations to Premises, Ironbridge, Salop | Co-operative Society | A. B. & W. Scott Deakin, Architects, 12A, Pride-hill, Shrewsbury | do. |
| House, near Wombwell Station, Yorks | | J. Robinson, Architect, Wombwell | do. |
| Eight Houses, Wombwell Main, Yorks | | do. | do. |
| Two Houses, Sutton, Co. Dublin | | G. F. Beckett, Architect, 97, St. Stephen's-green, South Dublin | do. |
| School, Templeborough | Rotherham School Board | G. E. Knight, Architect, College-street, Rotherham | do. |
| Three Houses, Burgate-street, Canterbury | | W. J. Jennings, Architect, 4, St. Margaret's-street, Canterbury | do. |
| Church, Shaftesbury-crescent, Derby | Mrs. Francis Ley | E. R. Ridgway, Architect, Long Eaton | do. |
| Additions to Warehouse, Church Bank, Bradford | | H. Hardaker, Architect, Ivegate Chambers, Bradford | do. |

## PUBLIC APPOINTMENTS.

| Nature of Appointment. | By whom Advertised. | Salary. | Application to be in |
|---|---|---|---|
| *Assistant Surveyor | Fulham Council | 200*l* | Dec. 10 |
| *Three Clerks of Works | Willesden District Council | 4*l.* 4s. per week each | do. |
| *Superintendent of Outdoor Work | Royal Borough of Kensington | 250*l.* &c. | Dec. 16 |
| *Assistant Surveyor | Hanley Corporation | 150*l.* | do. |
| *Senior Sanitary Inspector | Hampstead Council | 250*l.* per annum | do. |
| *Second Assistant in Surveyor's Department | Leyton U.D.C. | 100*l.* | Dec. 17 |
| *Junior Building Surveyor | London County Council | 2*l.* per week | No date |

*Those marked with an asterisk (*) are advertised in this Number.* *Competitions*, p. iv. *Contracts*, pp. iv. vi. viii. x. & xxi. *Public Appointments*, pp. xviii. xix. & xxi.

## PRICES CURRENT (*Continued*)

### METALS.

| | Per ton, in London. £ s. d. | £ s. d. |
|---|---|---|
| IRON— | | |
| Sheet Iron, galvanised, flat, best quality.— | 16 10 0 | . . . |
| Ordinary sizes to 20 g. | 16 10 0 | . . . |
| " " 22 g. and 24 g. | 17 0 0 | . . . |
| " " 26 g. | 18 10 0 | . . . |
| Galvanised Corrugated Sheets.— | | |
| Ordinary sizes, 6 ft. to 8 ft. 20 g. | 12 10 0 | . . . |
| " " 22 g. and 24 g. | 13 0 0 | . . . |
| " " 26 g. | 14 0 0 | . . . |
| Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker | 12 5 0 | . . . |
| " " 22 g. and 24 g. | 13 5 0 | . . . |
| " " 26 g. | 14 5 0 | . . . |
| Cut nails, 3 in. to 6 in. (Under 3 in. usual trade extras.) | 9 10 0 | 10 0 0 |

### LEAD, &c.

| | Per ton, in London. £ s. d. | £ s. d. |
|---|---|---|
| LEAD—Sheet, English, 3 lbs. & up. | 13 10 0 | . . . |
| Pipe in coils | 14 0 0 | . . . |
| Soil Pipe | 16 10 0 | . . . |
| ZINC—Sheet— | | |
| Vieille Montagne ton | 24 10 0 | . . . |
| Silesian | 24 0 0 | . . . |
| COPPER— | | |
| Strong Sheet per lb. | 0 1 0½ | . . . |
| Thin " | 0 1 2 | . . . |
| Copper nails " | 0 1 2 | . . . |
| BRASS— | | |
| Strong Sheet " | 0 0 11 | . . . |
| Thin " | 0 1 1 | . . . |
| TIN—English Ingots " | 0 1 3 | . . . |
| SOLDER—Plumbers' " | 0 0 6½ | . . . |
| Tinmen's " | 0 0 8 | . . . |
| Blowpipe " | 0 0 9 | . . . |

### ENGLISH SHEET GLASS IN CRATES.

| | |
|---|---|
| 15 oz. thirds | 2½d. per ft. delivered. |
| " " fourths | 2¾d. " " |
| 21 oz. thirds | 3½d. " " |
| " " fourths | 3¾d. " " |
| 26 oz. thirds | 4½d. " " |
| " " fourths | 4¾d. " " |
| 32 oz. thirds | 5½d. " " |
| " " fourths | 5¾d. " " |
| Fluted sheet, 15 oz. | 3½d. " " |
| " " 21 " | 4d. " " |
| ½ Hartley's Rolled Plate | 2¾d. " " |
| ⅝ " " " | 3¼d. " " |
| ¾ " " " | 3¾d. " " |

### OILS, &c.

| | £ s. d. |
|---|---|
| Raw Linseed Oil in pipes per gallon | 0 2 10 |
| " " " in barrels " | 0 2 11 |
| " " " in drums " | 0 3 1 |
| Boiled " " in pipes " | 0 3 0 |
| " " " in barrels " | 0 3 1 |
| " " " in drums " | 0 3 3 |
| Turpentine, in barrels " | 0 2 3 |
| " in drums " | 0 2 6 |
| Genuine Ground English White Lead per ton | 21 10 0 |
| Red Lead, Dry " | 21 10 0 |
| Best Linseed Oil Putty per cwt. | 0 8 6 |
| Stockholm Tar per barrel | 1 12 0 |

### VARNISHES, &c.

| | per gallon. £ s. d |
|---|---|
| Fine Elastic Copal Varnish for outside work | 0 16 6 |
| Best Elastic Copal Varnish for outside work | 1 0 0 |
| Best Elastic Carriage Varnish for outside work | 0 16 0 |
| Best Hard Oak Varnish for inside work | 0 10 6 |
| Best Extra Hard Church Oak Varnish for inside work | 0 10 6 |
| Fine Hard Copal Varnish for inside work | 0 16 0 |
| Best Hard Copal Varnish for inside work | 1 0 0 |
| Best Hard Carriage Varnish for inside work | 0 16 0 |
| Extra Pale Paper Varnish | 0 12 0 |
| Best Japan Gold Size | 0 10 6 |
| Best Black Japan | 0 16 0 |
| Oak and Mahogany Stain | 0 9 0 |
| Brunswick Black | 0 8 6 |
| Berlin Black | 0 16 0 |
| Knotting | 0 10 0 |
| Best French and Brush Polish | 0 10 0 |

## TO CORRESPONDENTS

"Estimates."—(If you will send name and address we may be able to consider the subject further). A. E.—J. B. Amounts should have been stated). F. W. P. (Belowour limit.)

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

*We cannot undertake to return rejected communications.*

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor

## TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays*. N.B.—We cannot publish tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted*. † Denotes *provisionally accepted*.

DEVONPORT.—For additions to infectious diseases hospital, North Prospect, for the Town Council :—

| | | | |
|---|---|---|---|
| Matcham & Co. | £1,298 0 0 | Paynter | £1,046 12 7 |
| T. May | 1,197 0 0 | Steer & Pearce | 994 12 2 |
| A. N. Coles | 1,117 10 0 | Ambrose | 993 16 3 |
| Pearce Bros. | 1,098 5 0 | Allen & Tozer* | 992 0 10 |
| Blake | 1,065 17 9 | [All of Plymouth.] | |

HOUNSLOW. — For the erection of twenty-two houses, for the Heston and Isleworth Urban District Council. Mr. P. G. Packman, C.E., Town Hall, Hounslow :—

| | | | |
|---|---|---|---|
| Wallis | £6,620 9 8 | Westbrook | £5,373 18 3 |
| Pitt | 6,390 0 0 | Macklin | 5,337 0 0 |
| Soole & Son | 6,000 0 0 | Hiscock | 5,291 0 0 |
| Emmett | 5,983 15 0 | Christie | 4,855 0 0 |
| Lock Bros. | 5,829 18 0 | Beach & Co., Woodford* | 4,575 0 0 |
| Barkers, Ltd. | 5,575 0 0 | | |

LONDON.—For constructing three workshops, Cassland House, Cassland-road, N.E., for the Governors of the Hackney Institute. Mr. A. W. S. Cross, architect, 58, Conduit-street, Regent-street, W. Quantities by Mr. A. G. Cross, 6, Old Queen-street, Westminster :—

| | | | |
|---|---|---|---|
| S. Kind | £2,939 0 0 | Voller & Goodfellow | £2,290 0 0 |
| Cordell & Sons | 2,662 6 0 | J. S. Robey | 2,289 0 0 |
| Gray Hill | 2,546 0 0 | Dolman & Co. | 2,277 0 0 |
| Castle Bros. | 2,519 0 0 | J. Jerram | 2,263 0 0 |
| J. Christie | 2,493 0 0 | Killby & Gayford | 2,259 0 0 |
| Roome & Co. | 2,449 0 0 | Smith & Co. | 2,249 10 6 |
| Geo. Barker | 2,433 0 0 | Gibb & Co. | 2,239 0 0 |
| Perry Bros. | 2,397 0 0 | W. Shurmur | 2,196 0 0 |
| General Builders | 2,397 0 0 | Foster Bros. | 2,192 0 0 |
| T. E. Mitchell | 2,395 0 0 | Viney & Stone | 2,147 0 0 |
| Chessum & Sons | 2,386 0 0 | W. Pearce | 2,082 0 0 |
| Wilson Bros. & Lamplough | 2,379 0 0 | Pollard & Brand, 32, Summerhill-road, South Tottenham* | 2,040 0 0 |
| G. Parker | 2,360 0 0 | | |
| Sabey & Sons | 2,315 0 0 | | |

LONDON.—For the erection of four workshops in the rear of Nos. 35 to 41, Clark-street and Nos. 118 to 122, Rutland-street, Mile End, E., for Mr. Charles Martin. Mr. Ernest H. Abbott, architect, 6, Warwick-court, Gray's Inn, W.C. :—

| | | | |
|---|---|---|---|
| Henry Hood | £998 | A. E. Symes | £850 |
| R. & E. Evans | 925 | George Wales | 837 |

LONDON.—For the erection of two workshops in the rear of Nos. 50 and 52, Lindley-street, Mile End, E., for Mr. H. Anschel. Mr. Ernest H. Abbott, architect, 6, Warwick-court, Gray's Inn, W.C. :—

| | | | |
|---|---|---|---|
| J. F. Holliday | £395 | Cone & Smith | £310 |
| J. Gibbs, jun. | 368 | | |

LONDON.—For the erection of seven workshops in the rear of Nos. 24 to 32, Philpot-street, Mile End, E., for Mr. C. D. Taylor. Mr. E. H. Abbott, architect, Warwick-court, WC. :—

| | | | |
|---|---|---|---|
| R. & E. Evans | £1,758 | George Brown | £1,398 |
| Henry Hood | 1,449 | | |

LONDON.—For the erection of an iron mission church, New Cross, S.E. :—

Smith & Co., Stratford* ..... £204

LOSSIEMOUTH (N.B.).—For alterations and additions to the Stotfield Hotel. Mr. R. B. Pratt, architect, Town and County Buildings, Elgin :—

*Masonry.*—Cruickshank, Aberlour ....
*Carpentry.*—Ritchie & Son, Lossiemouth .....
*Plumbing.*—Ross Bros., Elgin .....
*Slating.*—G. Murray, Lossiemouth .... £2,374
*Plastering.*—E. Gray, Elgin .....
*Painting.*—McGilleray, Lossiemouth ..
*Ironwork.*—Anderson & Youie, Elgin ..
*Grates and Mantels.*—Bannochie & Son, Aberdeen .....

MIDDLETON (Lancs).—For paving, &c., Highfield-street and others, for the Corporation. Mr. W. Welburn, Borough Surveyor, Town Hall, Middleton. Quantities by Borough Surveyor :—

| | | | |
|---|---|---|---|
| J. Dalty | £2,382 14 5 | A. Williamson | £1,755 11 6 |
| T. Roland | 2,165 15 0 | R. Heard | 1,710 8 4 |
| Etheridge & Clarke | 2,054 17 7 | Cordwall, Wilson, & Lunt. | 1,700 14 4 |
| French & Clough | 1,962 7 0 | Partington & Son, Middleton* | 1,663 15 4 |
| Snape & Son | 1,960 19 3 | | |

ROMFORD.—For the execution of sewerage and drainage works, Hare-street, for the Urban District Council. Mr. J. Turvey, surveyor, Market-place, Romford. Quantities by surveyor :—

| | | | |
|---|---|---|---|
| W. & C. French | £2,071 8 6 | D. T. Jackson | £1,522 0 0 |
| T. W. Pedreth | 2,226 2 6 | Johnson & Langley, Brockley* | 1,230 8 7 |
| Wilson, Bordor, & Co. | 1,760 0 0 | W. Manders | 1,287 0 0 |
| W. Poel, jun. | 1,274 15 4 | | |

[Surveyor's estimate, £1,275.]

RUABON (Wales).—For the erection of a house, &c., Newbridge. Mr. W. H. Johns, architect, Vroncyssyllte, Llangollen. Quantities by Mr. W. J. Gregory, Boothstreet, Manchester :—

| | | | |
|---|---|---|---|
| Evans & Roberts | £654 | John Carden | £545 |
| Evans & Sons | 618 | R. Hopley | 520 |
| Isaac Roberts | 595 | Jabez Higgins, Oswestry* | 487 |
| Price Williams | 575 | | |

SOUTHEND-ON-SEA. — For providing and fixing 7,000 ft. lineal Norway kerb, &c., for the Essex County Council. Mr. P. J. Sheldon, C.E., Duke-street, Chelmsford :—

| | | | |
|---|---|---|---|
| A. & B. Hanson | £1,431 4 0 | Bonnett & Co. | £1,356 10 0 |
| Nowell & Co. | 1,393 11 10 | W. Iles | 1,200 0 0 |
| Griffiths & Co. | 1,374 19 6 | Buxton & Jenner, Southend-on-Sea* | 1,197 10 1 |
| Lawrence & Shacker | 1,359 13 2 | | |

SUNDRIDGE PARK.—For erecting house for Mr. Sayers, Garden-road, Sundridge Park. Mr. T. Merrison Garrood, architect and surveyor, 172, Fenchurch-street, E.C. :—

| | | | |
|---|---|---|---|
| P. Duthoit | £1,312 | Senerford | £1,110 |
| J. Podger | 1,267 | Pinnane | 1,075 |
| Graty | 1,297 | L. Evans* | 979 |
| Lawe | 1,117 | | |

WEST HAM.—For the erection of thirty-six double tenement-houses in Invicta- and Rendel-roads, Canning Town, E., for the Corporation of West Ham. Mr. John G. Morley, Borough Engineer :—

| | | | |
|---|---|---|---|
| Spencer, Santo, & Co. | £21,000 0 0 | Gregar & Son | £15,930 0 0 |
| Calnan & Son | 20,063 0 0 | Barker & Co., Ltd. | 15,816 0 0 |
| W. Irwin | 19,215 18 11 | Haines & Co. | 14,656 0 0 |
| H. L. Holloway | 18,370 0 0 | Herbert Bros. | 14,247 0 0 |
| Martin, Wells, & Co. | 17,999 0 0 | G. Wise (Manager, Corporation Works Department)* | 13,955 0 0 |
| W. E. Davey | 17,275 0 0 | | |
| Hardy Bros. | 16,565 0 0 | | |
| Shelbourne & Co. | 16,542 0 0 | | |

[Borough Engineer's estimate, £15,000.]

WOOLWICH.—For the erection of a cottage, Cemetery-road, Plumstead, for the Woolwich Guardians. Messrs. Church & Co., architects, William-street, Woolwich :—

| | | | |
|---|---|---|---|
| Foster Bros. | £562 0 0 | Thomas & Edge, Anglesea-av., Woolwich* | £447 0 0 |
| C. Kitley | 533 8 7 | | |
| Stevens & Son | 498 0 0 | | |
| G. G. Page | 483 10 0 | | |

## LONDON SCHOOL BOARD TENDERS

**AT the last meeting of the London School Board, the Works Committee submitted the following lists of tenders. Mr. T. J. Bailey is the Board's architect :—**

The interiors of the following schools will be cleaned between December 14, 1901, and January 4, 1902 :—

ACKMAR-ROAD (all Buildings) :—

| | | | |
|---|---|---|---|
| W. Hammond | £330 0 | Chinchen & Co. | £269 0 |
| J. & M. Patrick | 328 0 | C. Curd* | 220 10 |
| W. Hornett | 310 0 | | |

ALDENHAM-STREET :—

| | | | |
|---|---|---|---|
| T. Cruwys | £235 0 0 | Marchant & Hirst | £166 0 0 |
| C. & W. Hunnings | 216 17 6 | W. Chappell | 139 0 0 |
| Stevens Bros.* | 175 10 0 | | |

ANN-STREET :—

| | | | |
|---|---|---|---|
| Stevens Bros. | £223 0 | Johnson & Co. | £220 0 |
| | | W. Chappell* | £158 10 0 |

BELLEVILLE-ROAD :—

| | | | |
|---|---|---|---|
| R. S. Ronald | £270 0 | E. B. Tucker | £209 5 |
| Martin, Wells, & Co. | 263 0 | Lorden & Son | 177 15 |
| Johnson & Co., Ltd. | 223 0 | Garrett & Son | 165 0 |
| | | E. Flood* | 162 0 |

BUCKINGHAM-TERRACE :—

| | | | |
|---|---|---|---|
| Brown & Sons | £270 0 0 | F. Chidley* | £166 11 6 |
| T. Cruwys | 230 0 0 | Chinchen & Co. | 159 0 0 |
| W. R. & A. Hide | 205 0 0 | W. Chappell | 149 0 0 |
| Bristow & Eatwell | 179 10 0 | | |

BUCK'S-ROW :—

| | | | |
|---|---|---|---|
| J. F. Holliday | £178 0 | W. Shurmur | £144 0 |
| J. T. Robey | 177 0 | G. Barker* | 142 10 |
| Haydon & Sons | 176 10 | Vigor & Co. | 142 0 |
| F. & F. J. Wood | 150 0 | | |

CARLTON-ROAD :—

| | | | |
|---|---|---|---|
| Balfour & Co. | £579 5 | Stevens Bros. | £378 0 |
| R. S. Buckeridge | 425 0 | Bristow & Eatwell* | 295 10 |
| Wall & Co. | 394 0 | | |

CRANBROOK-ROAD :—

| | | | |
|---|---|---|---|
| Collis Willmott & Son | £368 | G. Barker | £291 |
| W. Hornett | 337 | Corfield & Co. | 265 |
| Barrett & Power | 323 | Silk & Son* | 253 |

CRAWFORD-STREET :—

| | | | |
|---|---|---|---|
| Holloway Bros. | £368 0 | H. Line | £243 0 |
| W. Downs | 329 13 | Maxwell Bros., Ltd. | 237 0 |
| J. F. Ford | 304 0 | Garrett & Son* | 199 0 |
| Rice & Son | 263 0 | | |

DEPTFORD PARK :—

| | | | |
|---|---|---|---|
| W. J. Howie | £285 0 0 | S. Musgrove | £176 18 0 |
| W. Banks | 245 17 6 | H. Groves* | 175 0 0 |
| Hayter & Son | 230 0 0 | | |

EARL-STREET :—

| | | | |
|---|---|---|---|
| W. J. Howie | £259 0 0 | E. Proctor | £178 0 0 |
| W. Banks | 210 15 6 | H. Groves* | 165 0 0 |
| Hayter & Son | 188 0 0 | | |

FLINT-STREET :—

| | | | |
|---|---|---|---|
| J. F. Ford | £214 | Sayer & Son | £148 |
| W. Downs | 174 | Vigor & Co. | 145 |
| H. J. Williams | 174 | Holliday & Greenwood* | 139 |
| Rice & Son | 157 | | |

[*See also next page.*

GARRATT-LANE:—

| | | | |
|---|---|---|---|
| Johnson & Co., Ltd. | £290 0 | Bulled & Co. | £194 0 |
| E. Flood | 235 0 | Garrett & Son | 186 0 |
| R. S. Ronald | 205 0 | Lorden & Son* | 166 15 |

GOODRICH-ROAD:—

| | | | |
|---|---|---|---|
| J. & C. Bowyer | £369 0 | Rice & Son | £304 0 |
| Sayer & Son | 347 10 | C. G. Jones | 296 0 |
| G. Kemp | 320 0 | H. Line | 279 0 |
| Maxwell Bros., Ltd. | 325 0 | Black & Son* | 245 0 |

GREAT COLLEGE-STREET:—

| | | | |
|---|---|---|---|
| Balfour & Co. | £379 10 6 | Merchant & Hirst | £186 0 0 |
| R. S. Buckeridge | 226 0 0 | T. Cruwys* | 179 0 0 |
| Stevens Bros. | 206 0 0 | W. Chappell | 178 10 0 |
| Wall & Co. | 205 0 0 | | |

HANOVER-STREET:—

| | | | |
|---|---|---|---|
| C. & W. Hunnings | £270 7 6 | McCormick & Sons | £222 0 0 |
| Stevens Bros. | 226 0 0 | Grover & Son | 218 0 0 |
| Marchant & Hirst* | £212 0 0 | | |

JESSOP-ROAD (all Departments):—

| | | | |
|---|---|---|---|
| W. Downs | £219 0 | E. Triggs | £153 0 |
| Maxwell Bros., Ltd. | 177 0 | Holliday & Greenwood, Ltd.* | 140 0 |
| Rice & Son | 164 0 | | |
| H. & G. Mallett | 158 10 | | |

MIDDLE-ROW:—

| | | | |
|---|---|---|---|
| Balfour & Co. | £282 3 | Bristow & Eatwell | £154 10 |
| Marchant & Hirst | 196 0 | W. Chappell | 152 10 |
| Brown & Sons | 183 4 | Chinchen & Co.* | 147 18 |
| F. Chidley | 162 0 | | |

PRITCHARD-ROAD:—

| | | | |
|---|---|---|---|
| W. Martin | £308 0 | Haydon & Sons | £183 10 |
| Barrett & Power | 294 10 | Collis Willmott & Son | 170 0 |
| Gibb & Co. | 106 10 | Silk & Son* | 160 0 |
| W. Shurmur | 189 0 | | |

ROCKINGHAM-STREET:—

| | | | |
|---|---|---|---|
| King & Son | £336 7 | Johnson & Co. | £230 0 |
| W. Downs | 278 0 | Sayer & Son | 212 0 |
| Bulled & Co. | 234 0 | Vigor & Co.* | 170 0 |
| W. V. Goad | 232 0 | | |

ROSEBERY-AVENUE:—

| | | | |
|---|---|---|---|
| M. Pearson | £224 | Stevens Bros. | £198 |
| Johnson & Co. | 217 | W. Chappell* | 146 |

SCAWFELL-STREET:—

| | | | |
|---|---|---|---|
| W. Martin | £311 0 | McCormick & Sons | £247 0 |
| Haydon & Sons | 279 10 | Barrett & Power | 240 0 |
| W. Shurmur | 261 0 | G. Barker | 203 0 |
| Collis Willmott & Son | 255 0 | G. Wales* | 157 4 |

SETTLES-STREET:—

| | | | |
|---|---|---|---|
| A. J. Sheffield | £332 0 | Vigor & Co. | £289 10 |
| W. Shurmur | 315 0 | J. T. Robey | 289 0 |
| Haydon & Sons | 313 10 | G. Barker* | 279 10 |
| J. F. Holliday | 295 0 | G. Wales | 266 0 |

SOUTHAMPTON-STREET:—

| | | | |
|---|---|---|---|
| King & Son | £284 19 | Maxwell Bros., Ltd. | £209 0 |
| Sayer & Son | 257 0 | Vigor & Co. | 185 0 |
| H. Line | 243 0 | Garrett & Son* | 175 0 |
| Rice & Son | 226 0 | | |
| G. Kemp | 216 0 | | |

"VICTORIA" (J. M. School)†:—

| | | | |
|---|---|---|---|
| Bristow & Eatwell | £79 10 | Brown & Sons* | £55 0 |
| W. R. & A. Hide | 63 10 | | |

† The work at this school will be executed between December 21, 1901, and January 4, 1902.

WOOLMORE-STREET:—

| | | | |
|---|---|---|---|
| A. W. Derby | £242 0 | Corfield & Co. | £185 0 |
| A. J. Sheffield | 227 0 | J. T. Robey | 175 0 |
| T. H. Jackson | 219 0 | G. Wales* | 143 3 |
| Gibb & Co. | 191 0 | | |

WORNINGTON-ROAD:—

| | | | |
|---|---|---|---|
| W. R. & A. Hide | £377 0 | F. Chidley | £235 10 |
| Balfour & Co. | 358 0 | Bristow & Eatwell | 234 10 |
| Brown & Sons | 293 12 | Chinchen & Co.* | 229 0 |
| W. Chappell | 240 0 | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Institution Prize .. | 1895 | 1896 | 1897 | 1898 | 1899 | — | 1901 |
| Special Prize .. .. | — | — | — | 1897 | 1898 | 1899 | — 1901 |
| Driver Prize .. .. | 1895 | 1896 | — | 1898 | 1899 | 1900 | 1901 |
| Penfold Silver Medal | 1895 | 1896 | — | 1898 | 1899 | 1900 | 1901 |
| Penfold Gold Medal | — | — | — | — | 1899 | 1900 | — |
| Crawter Prize .. .. | — | — | — | 1898 | — | — | 1901 |

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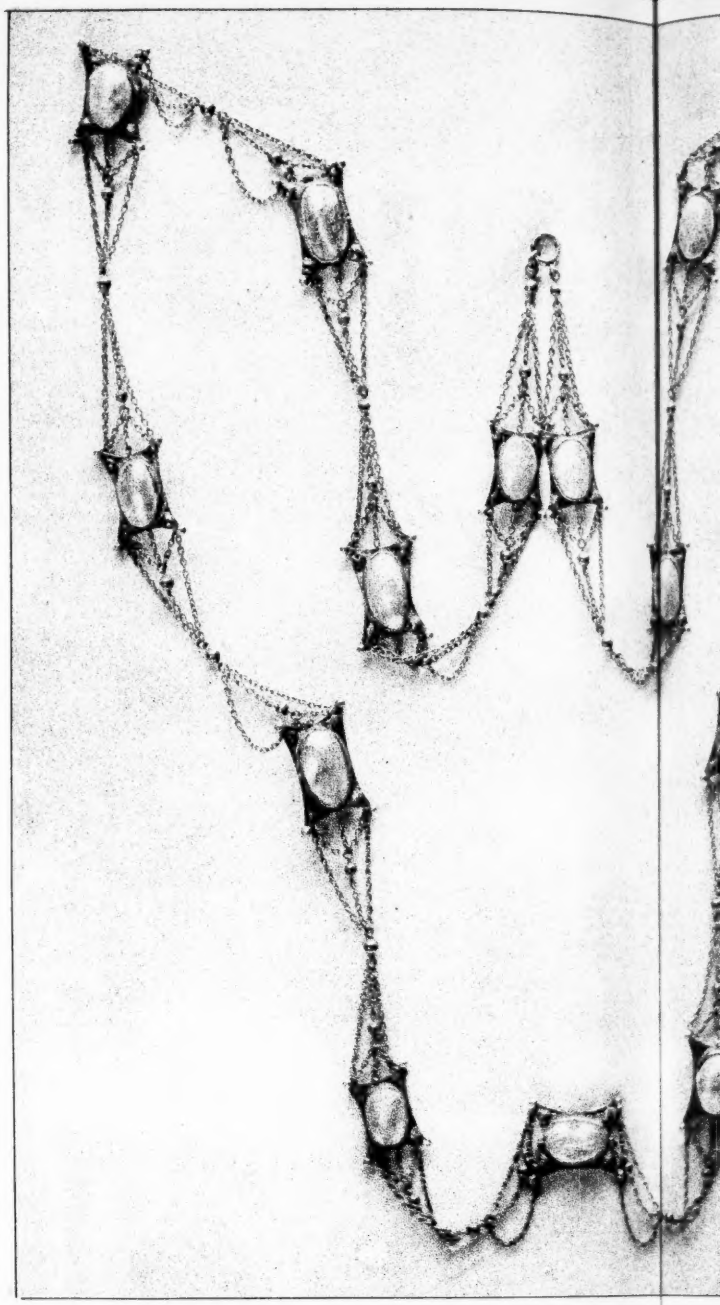

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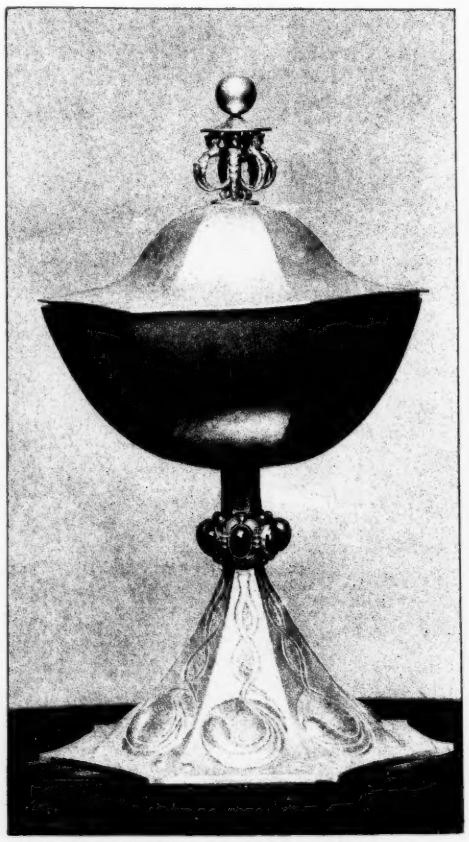

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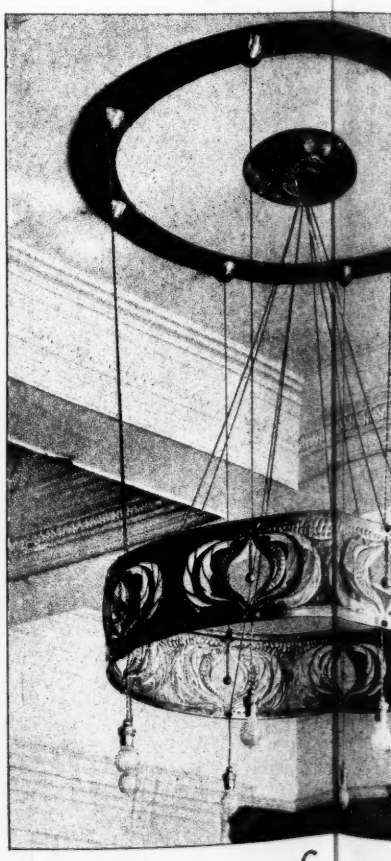

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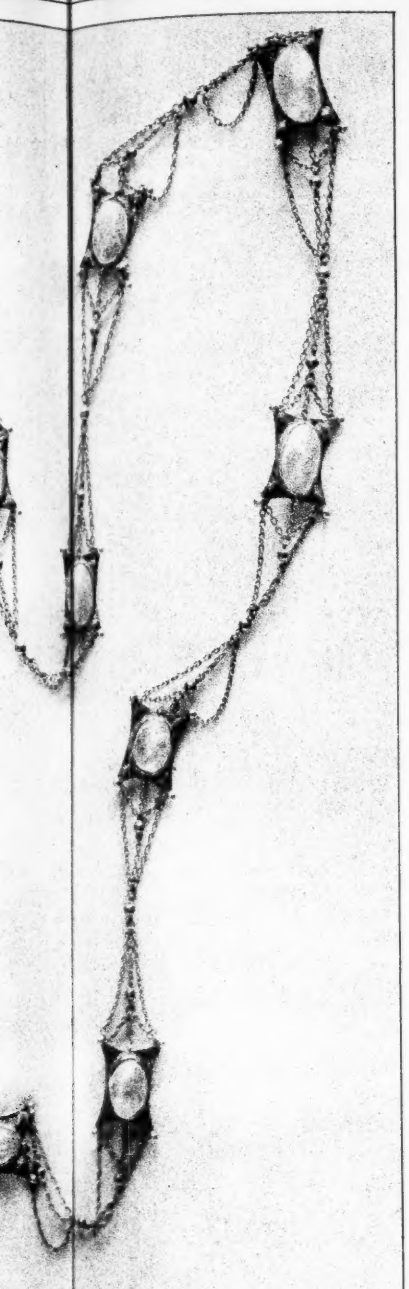

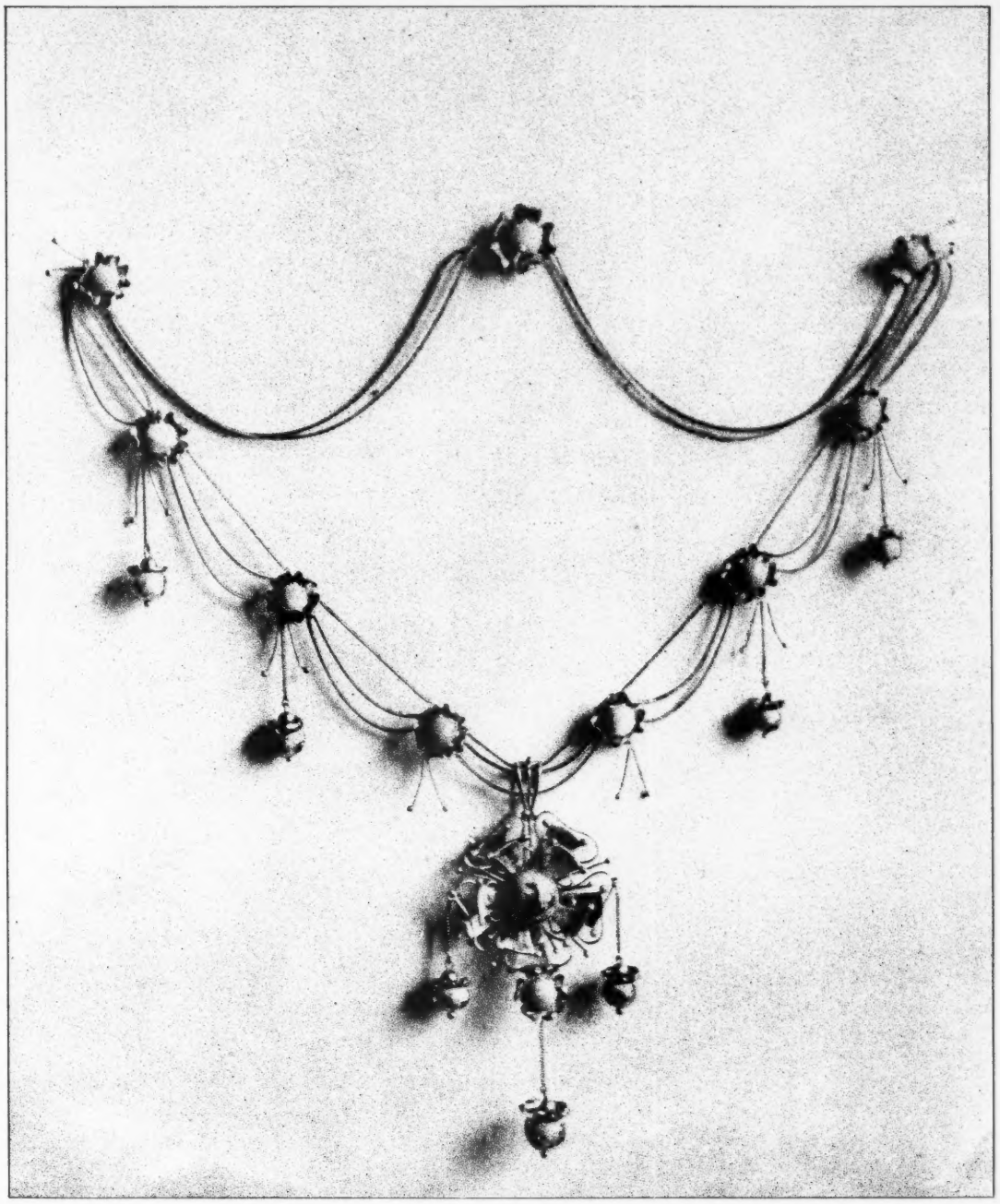

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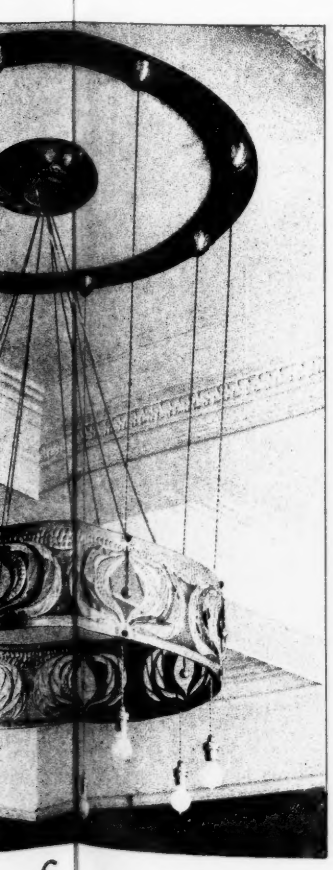

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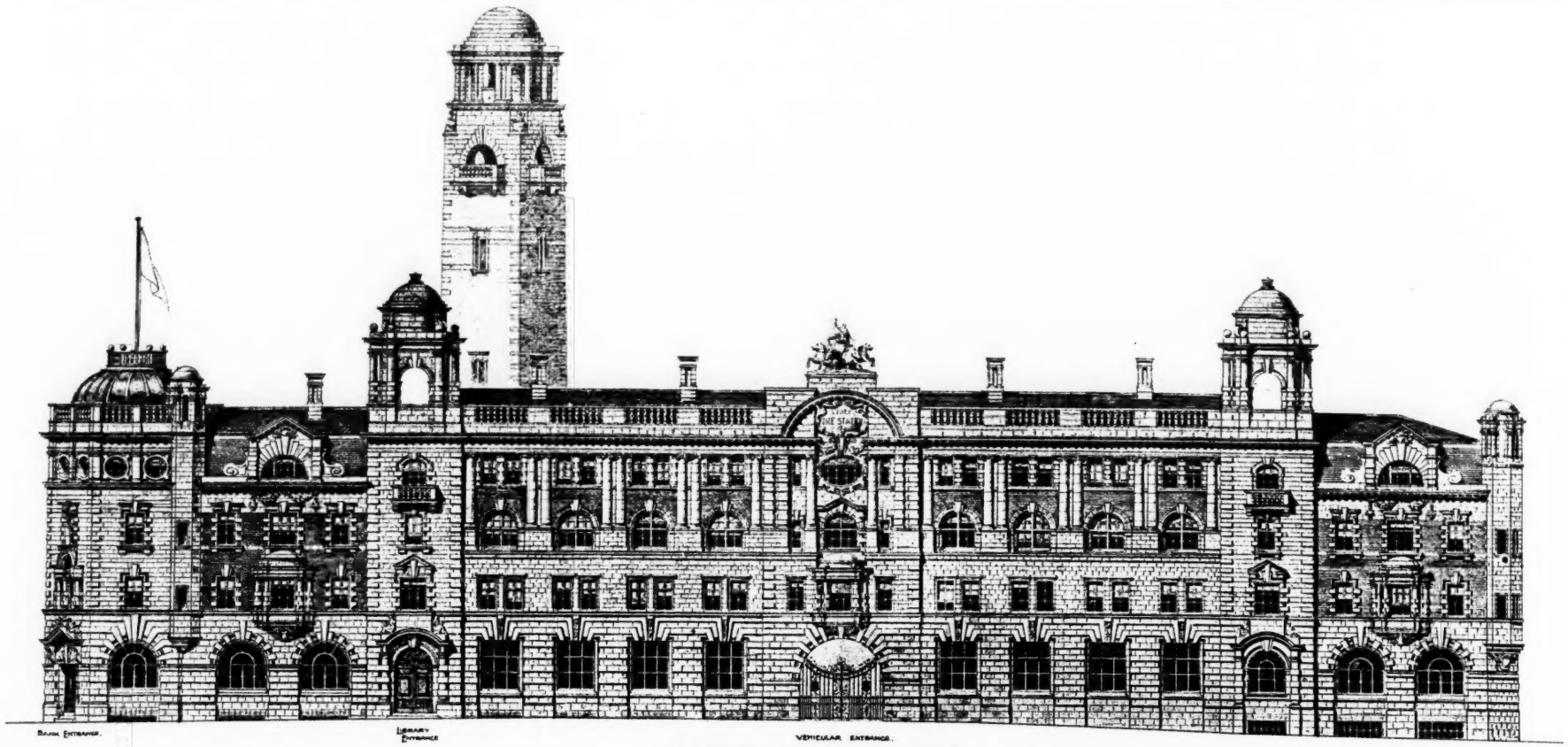


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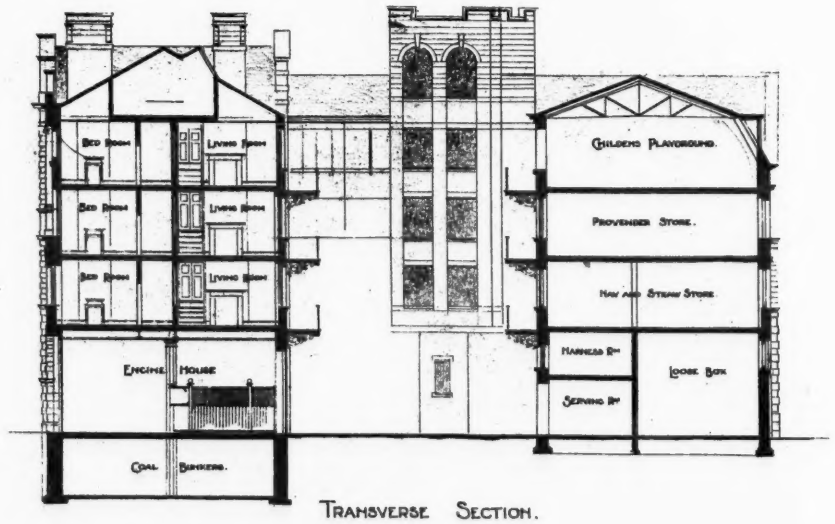


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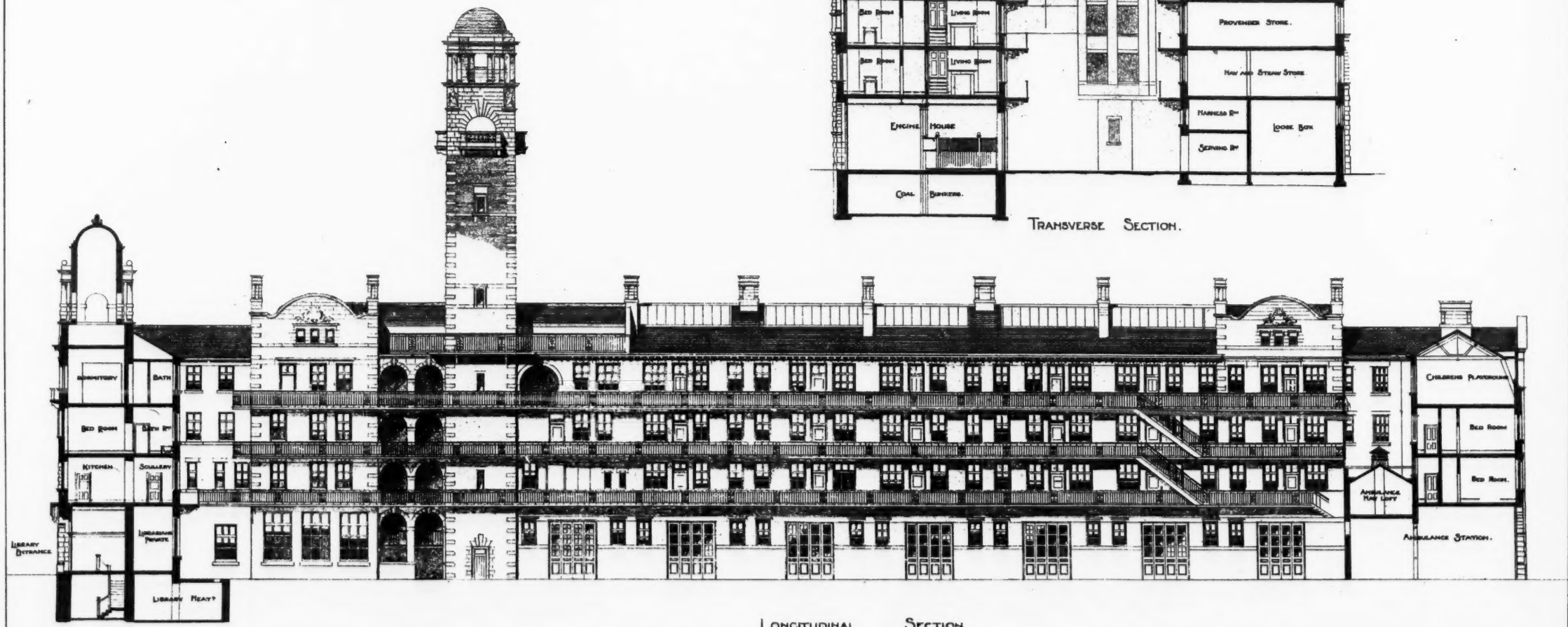


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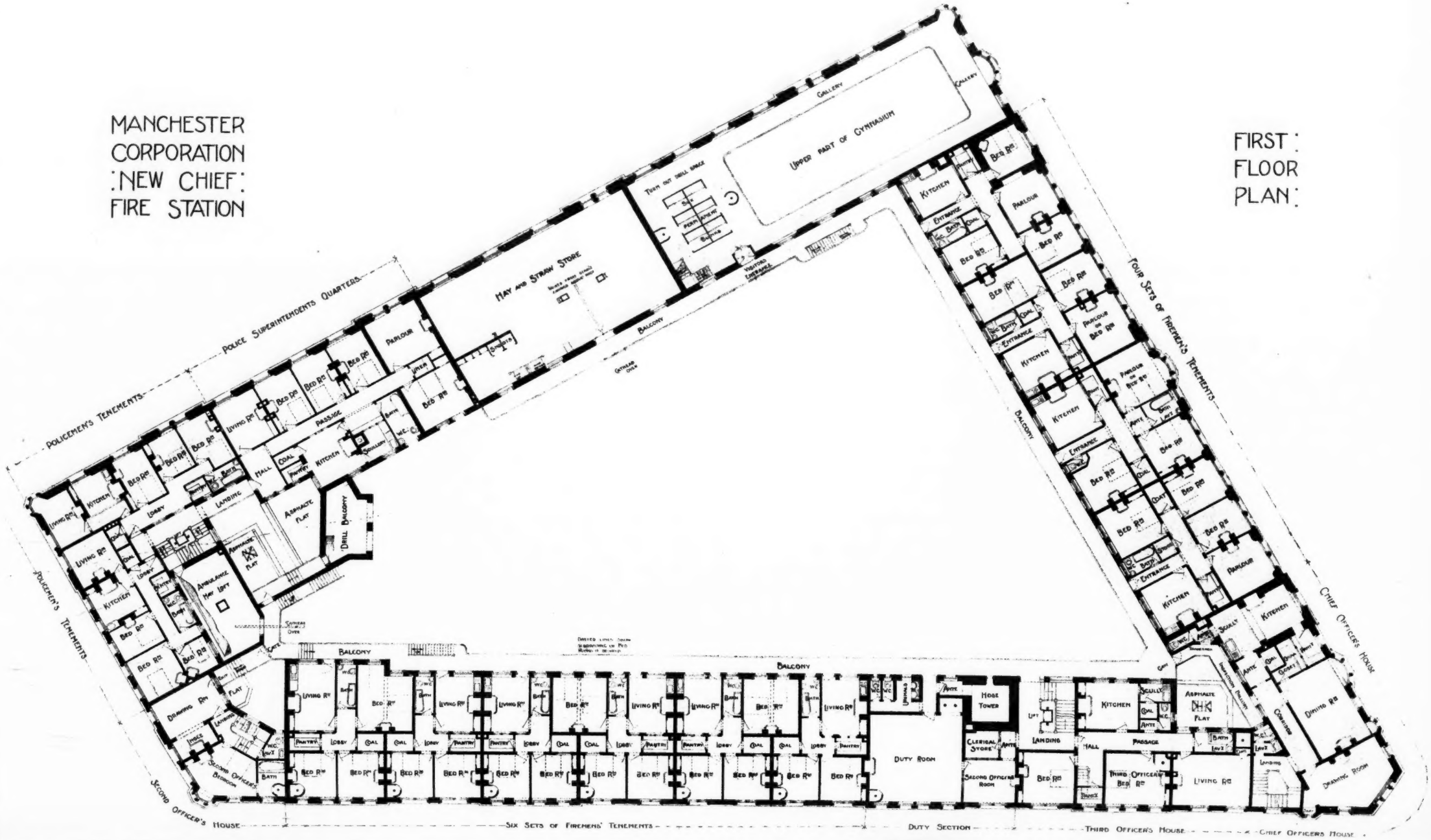

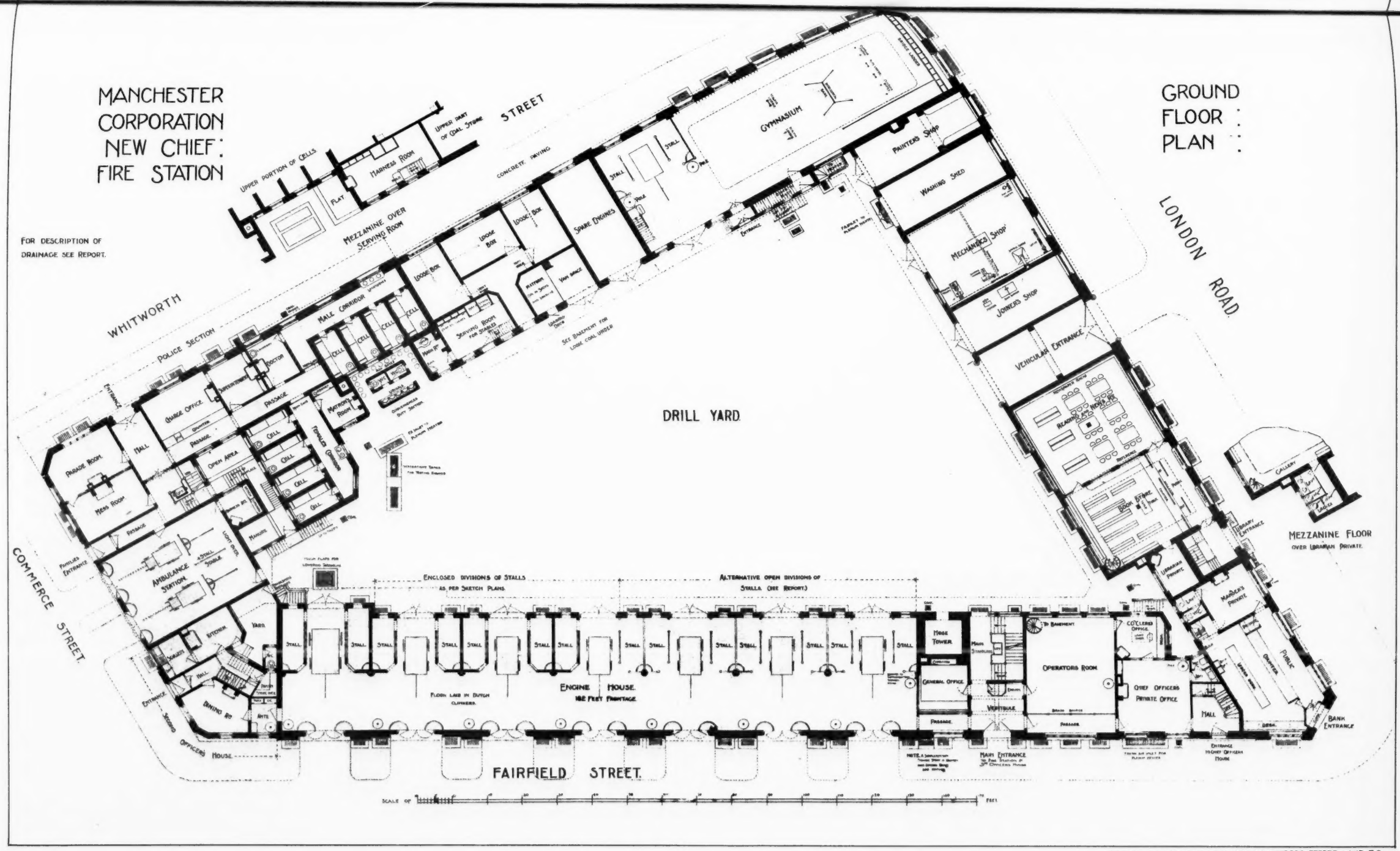


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